MINISTRY OF NATURAL RESOURCES

Chatham District

LAND USE GUIDELINES

Ontario Ministry of Natural Resources

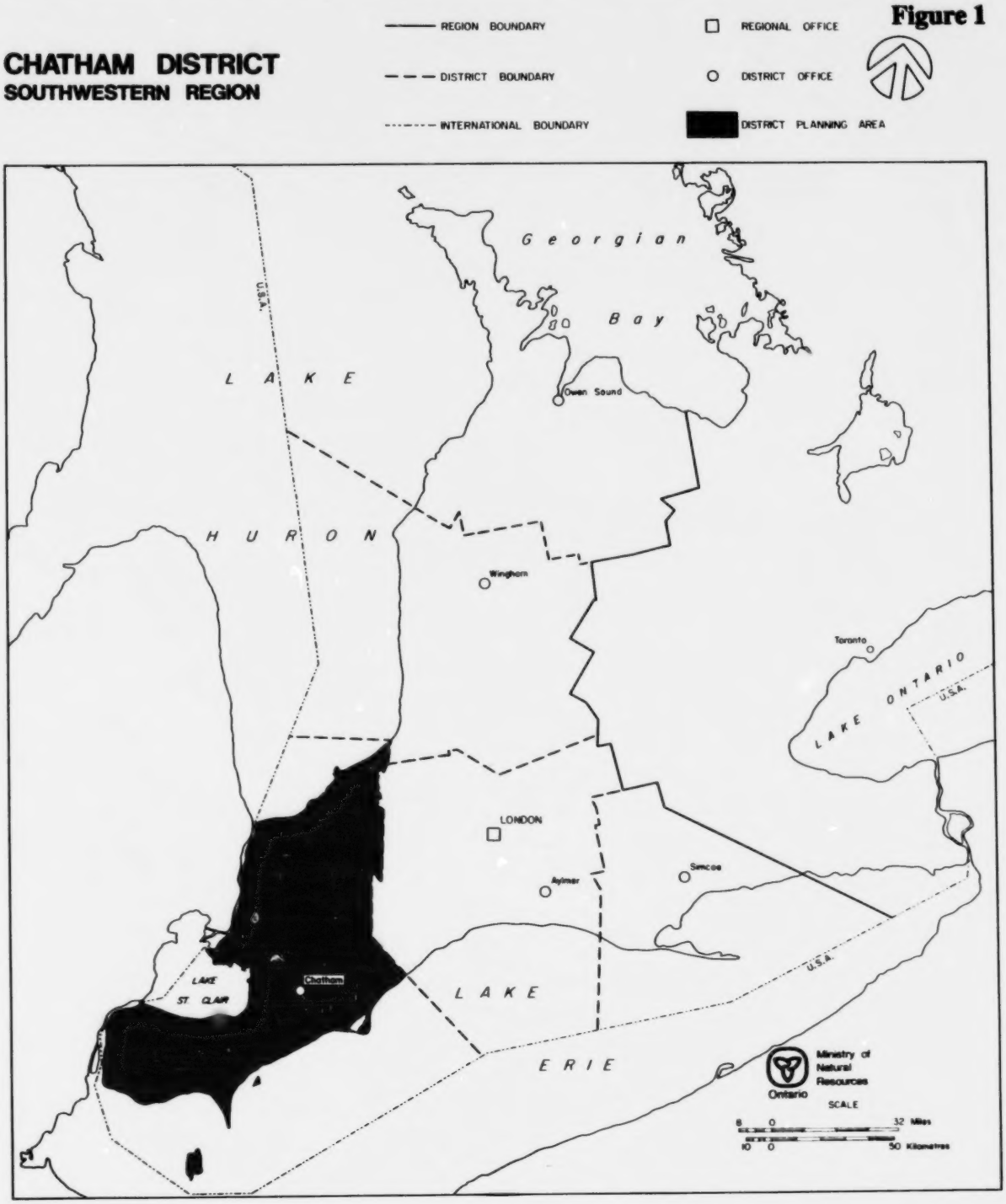
Hon. Alan W. Pope
Minister

W. T. Foster
Deputy Minister

1983

Figure 1

CHATHAM DISTRICT
SOUTHWESTERN REGION



FOREWORD

The Ministry of Natural Resources has a primary responsibility for the management of the province's natural resources, in particular those related to resource development and outdoor recreation.

This document will serve as the overall design for integrated resource development in Chatham District. It is also intended to provide others with an understanding of the ministry's mandate and its programs which rely on both Crown and private lands for success.

To ensure an integrated approach, the *Chatham District Land Use Guidelines* identify where and in what manner the ministry may use Crown land, and to what extent it may wish to suggest uses of private land, in working towards the achievement of ministry objectives.

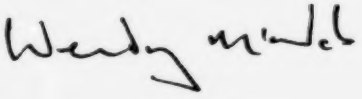
For Crown land the ministry must consider the land and water requirements for both its own programs and those of other government agencies. This will require ongoing liaison with these other agencies. The ministry will continue to consult with private landowners and local municipalities since the latter have the responsibility for control of private land use.

The program targets and approaches outlined in this document follow the overall direction outlined in the ministry's *Southern Ontario Co-ordinated Program Strategy*. The *Land Use Guidelines* may serve as one of the sources of information for ministry involvement in the planning process of municipalities and other agencies. It is recognized, however, that this document has no legal status.

Planning is a continuous process and must be responsive to changing needs, information and technology. Thus the targets and guidelines presented in this document are subject to revision based on such factors as changes in government policy, new or refined resource information, and significant changes to land use in other planning documents. To accommodate changes, the *Land Use Guidelines* will normally be reviewed every ten years and will involve full public consultation.

Comments may be addressed to the District Manager at any time.

Regional Director
Southwestern Region



District Manager
Chatham District

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I INTRODUCTION

1. PROVINCIAL PERSPECTIVE

The goal of the Ministry of Natural Resources is to provide opportunities for outdoor recreation and resource development for the continuous social and economic benefits of the people of Ontario and to administer, protect and conserve public lands and waters.

To implement this goal, it is necessary for the ministry to identify the available resources and a future direction. The *Southern Ontario Co-ordinated Program Strategy* is the document which defines the natural resources and the necessary direction for this ministry.

2. DISTRICT PERSPECTIVE

Chatham District is one of five administrative units in Southwestern Region (Figure 1). It consists of Essex, Kent and Lambton Counties. Together the counties comprise 0.6 percent of the total land area of the province.

The predominant land use is agriculture. Approximately 82 percent of the land base is under farm production, with the majority devoted to crop cultivation.

Despite its small land base and the predominance of agriculture, these counties presently provide about 16 percent of all Ontario's provincial park visitation, 24 percent of its commercially caught fish, 42 percent of its fossil fuel production, and more than 50 percent of its salt production (Figure 2).

This report is intended to define the program objectives, targets and guidelines that Chatham District may adopt in order to achieve its contribution to the targets in the *Co-ordinated Program Strategy*. These *Land Use Guidelines* identify what the ministry proposes to achieve locally, through cooperative efforts with conservation authorities, municipalities, other agencies, interest groups, and landowners. More specifically, this report outlines:

- general policies and program policies to be pursued by the ministry in Chatham District;
- quantitative targets for each program;
- land and water areas which could contribute to target achievement;
- methods for policy implementation, including how the ministry hopes to work with conservation authorities, municipalities and landowners; and
- how ministry programs could be integrated.

It is not intended, however, that all targets be achieved immediately. The intent is to aim for target achievement over the next 20 years for all programs except forestry, which is 40 years. However, a number of factors may affect achievement of the stated targets including:

- legislative approval of necessary funding and staffing required to carry out the level of resource management on which target achievement is based;
- changing economic and social conditions on a local or provincial basis;
- new or improved inventory and information which could result in a change of the original estimates; and
- a more thorough analysis of original information.

Where there are changes in targets, whether for the above or other reasons, the *Land Use Guidelines* will be amended accordingly.

In fact, the planning process permits consideration of amendments or informal reviews at any time. These reviews or amendments may be initiated by the ministry or the public.

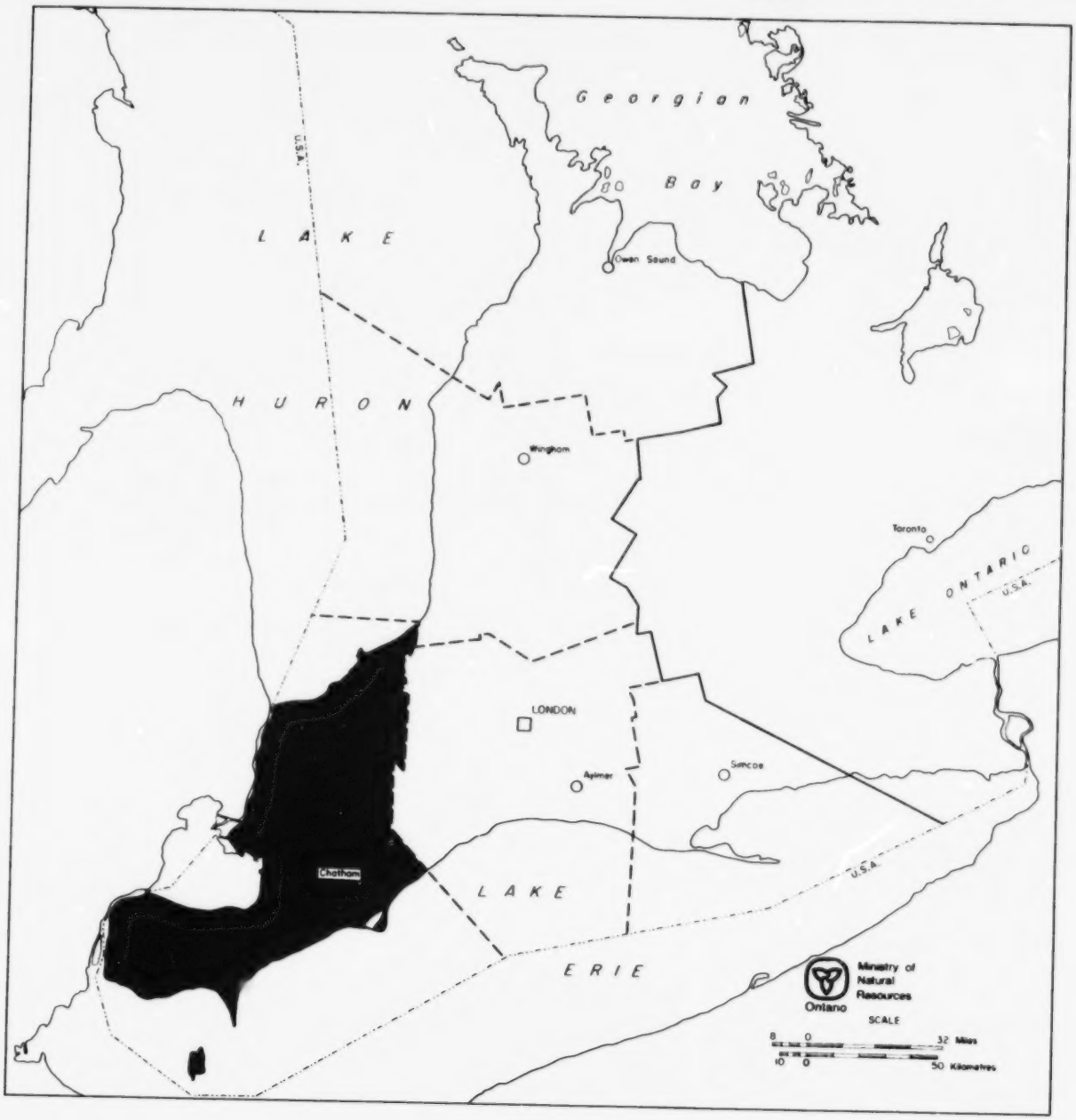
In this regard, the *Land Use Guidelines* are best viewed as a report which will be subject to considerable monitoring and review as it is applied.

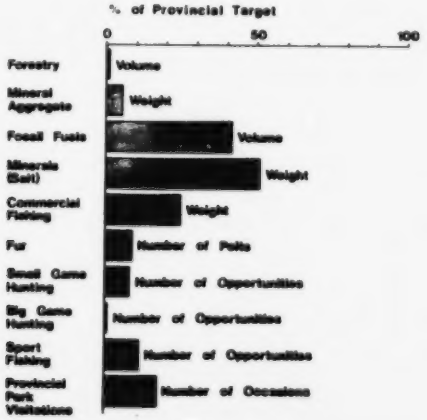
Preparation of the *Chatham District Land Use Guidelines* required the analysis of information regarding resource trends, existing use and present and potential production of activities in relation to assigned targets. Areas where target achievement might be affected by other program

CHATHAM DISTRICT
SUMMARY OF PROGRAMS

Figure 2

REGION BOUNDARY
DISTRICT BOUNDARY
INTERNATIONAL BOUNDARY
REGIONAL OFFICE
DISTRICT OFFICE
DISTRICT PLANNING AREA





objectives were identified along with constraints imposed by land use designations in official plans and by policies of other agencies. From this information, guidelines for future natural resource management were developed.

To succeed in the direction set out in this document, it is essential that management effort be increased, particularly on private land. In Chatham District, less than one percent of the land is public. Virtually all forestry, mineral aggregate and petroleum resource needs must come from private land.

The *Land Use Guidelines* have no legal status. The planning control of private land in municipalities is exercised by those municipalities under the authority of the *Planning Act*, administered by the Ministry of Municipal Affairs and Housing.

The ministry recognizes that private landowners, other government agencies, municipalities, conservation authorities and interest groups are key partners in any effort to achieve effective and co-ordinated resource management. The ministry will continue to work with these groups, especially with municipalities through the ministry's plan input and review program to ensure that resource values are considered in local planning documents.

There will be instances when the ministry and others, for example another government agency, will have differing intentions for the same area. When such situations are identified, the ministry will enter into negotiations to arrive at an acceptable solution.

The way in which the ministry proposes to work with municipalities, conservation authorities, landowners and others (for example, the Ontario Ministry of Agriculture and Food, the St. Clair Parkway Commission, the Canadian Wildlife Service, etcetera), is outlined in the Application section, Part VI, of this report.

Public consultation is important in the land use planning process.

In southern Ontario, public involvement in ministry planning began with the development of the *Southern Ontario Co-ordinated Program Strategy*. Public consultation continued in the preparation of the *Chatham District Land Use Guidelines* with the holding of 'open houses' in June 1982. At that time, the public was asked to comment on the accuracy of the ministry's information and to provide any additional knowledge they had of the planning area and raise any problems or issues they felt should be addressed during the planning process.

In August 1982, a draft *Chatham District Land Use Strategy* was released and additional 'open houses' were held to explain the direction proposed and invite public comment. In addition to receiving many verbal and written comments as a result of the open houses, the ministry held follow-up meetings with municipalities and interest groups on request.

Based on the analysis and evaluation of public input received, the *Chatham District Land Use Guidelines* report was prepared.

Copies of comments received are available for viewing in the Chatham District office, the ministry's main office public reading room and the legislative library at Queen's Park in Toronto. Details of the public consultation program are found in the appendix to this report.

Table 1 summarizes the targets for Chatham District. Present and potential production are included along with the percentage of each target that the ministry plans to achieve in each of the three counties as well as the percentage proposed for achievement on conservation authority, private and Crown land.

Figure 3 illustrates the distribution of target achievement proposed by county.

The details regarding each table are to be found in further sections of this report.

Figures 4 through 9 in Part IV show for each program (general recreation and land administration excepted) the extent of the ministry's present involvement in the district's land and water base. The areas shown on these maps include significant program areas, as well as other areas in which the ministry has significant resource interests. These areas will provide a starting point for achieving the targets of the *Land Use Guidelines*. The General Resource Areas map (back pocket) illustrates a combination of program concerns on a district basis, and highlights some important aspects of the *Land Use Guidelines*.

TABLE 1 THE TARGETS SUMMARIZED

RESOURCE TARGET for the year 2000	RESOURCE ANALYSIS		RESOURCE LOCATION			OWNERSHIP		
	Present (per year)	**Potential (per year)**	**Significant Program Area**	**Sub-district Unit**	**Target %**	**Conservation Authority %**	**Municipal & Private %**	**Crown %**
Forestry 58,060 m^3 per year (for the year 2020)	101,300 m^3	120,500 m^3	private land including WIA's[1] agreement forests	Essex Kent Lambton	10% 21% 69%	less than 1%	100%	0%
Mineral Aggregate 119 million tonnes cumulative	7.0 million tonnes	549 million tonnes (sand & gravel) 973 million tonnes (limestone)	existing pits, high potential aggregate, other aggregate, stone	Essex Kent Lambton	72% 24% 4%	0%	100%	0%
Petroleum Resources Oil — no target Gas — no target	53,167.3 m^3 per year 195,124.6 $10^3 m^3$ per year		producing wells, potential inland reserves, potential offshore gas reserves — L. Erie	Essex Kent Lambton Offshore — L. Erie	4% 27% 69% 100%	0% 0%	100% 0%	0% 100%
Fisheries **Sport Fishing** 905,580 opportunities per year	415,400 opportunities	905,580 opportunities	Great Lakes & connecting waterways, Rondeau Bay & Thames River	L. Erie L. St. Clair L. Huron Inland Waters	82% 12% 2% 4%	1%	9%	90%
Commercial Fishing Lake Erie 7,925,000 kg per year	8.4 million kg	7,925,000 kg	Lake Erie	Lake Erie	92%	0%	0%	100%
Lake St. Clair 336,000 kg per year	146,000 kg	336,000 kg	Lake St. Clair	Lake St. Clair	4%			
Lake Huron 358,300 kg per year	335,000 kg	358,300 kg	Lake Huron	Lake Huron	4%			
Bait Fishing 2.12 million dozen per year	1.4 million dozen	2.12 million dozen	Great Lakes & connecting waters	Inland Waters Lake Huron Lake Erie Detroit River Lake St. Clair St. Clair River	35% 34% 14% 5% 1% 11%	0%	0%	100%

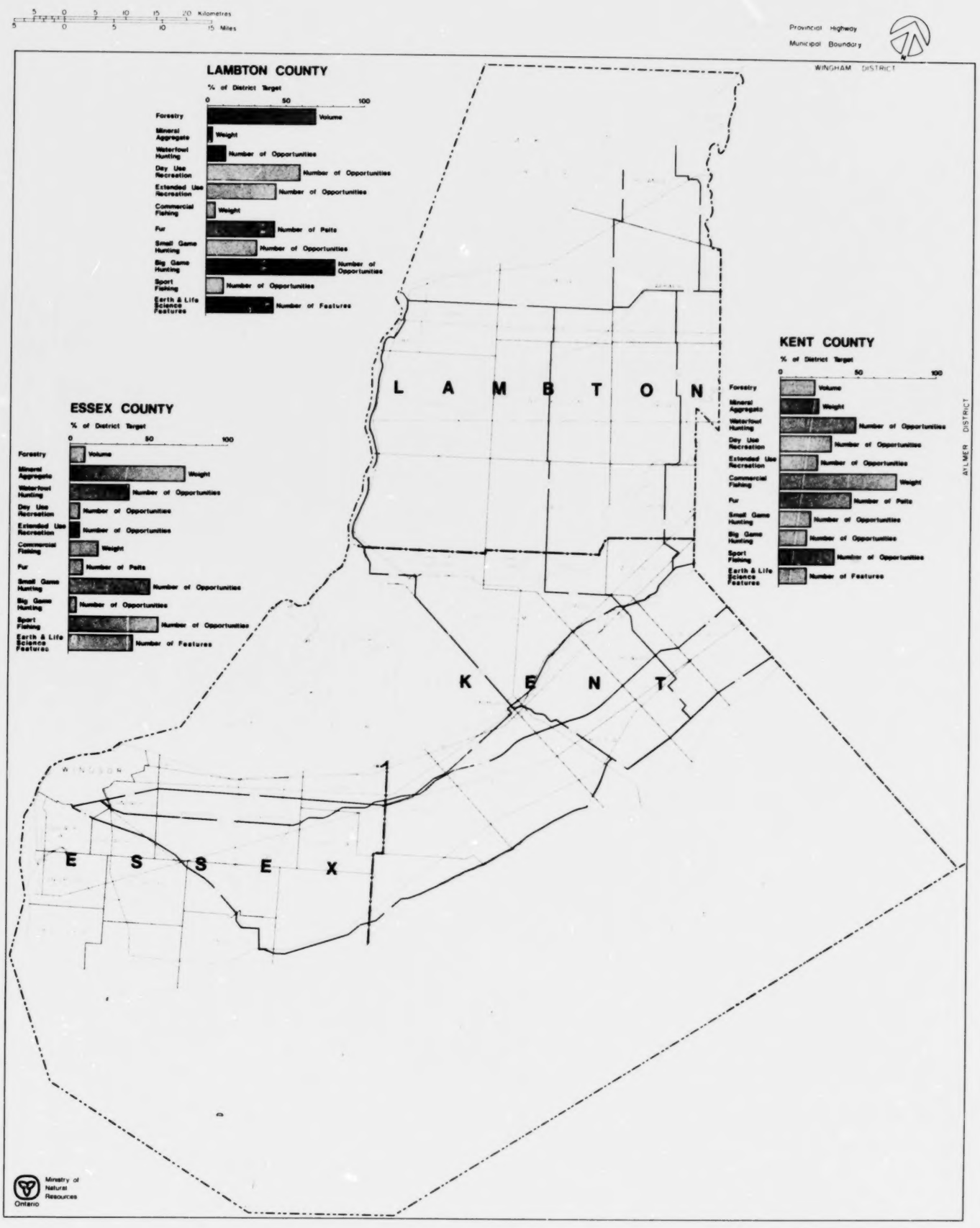
Wildlife								
Big Game Hunting 2,500 opportunities per year	1,480 opportunities	3,260 opportunities	woodlots in Bosanquet Twp., Rondeau Prov. Park	Essex Kent Lambton	5% 16% 79%	0%	100%	0%
Small Game Hunting 120,690 opportunities per year	92,500 opportunities	150,000 opportunities	hedgerows, windbreaks, woodlots	Essex Kent Lambton	52% 19% 29%	1%	99%	0%
Waterfowl Hunting 122,650 opportunities per year	98,600 opportunities	178,000 opportunities	L. St. Clair & L. Erie Marshes, St. Clair & Detroit Rivers, Pt. Pelee, Rondeau P.P.	Essex Kent Lambton	37% 50% 13%		— unknown —	
Trapping 93,000 pelts per year	104,000 pelts	93,000 pelts	L. St. Clair & L. Erie Marshes	Essex Kent Lambton	10% 46% 44%		— unknown —	
Provincial Parks 4,283,800 day use opportunities per year	3,926,500 day use opportunities	4,560,500 day use opportunities (includes 1,075,900 surplus swimming opportunities that are now provided)	Existing Provincial Parks	Essex Kent Lambton	7% 28% 60%	0%	0%	100%
665,200 camping opportunities per year	415,000 camping opportunities	508,200 camping opportunities	Existing Provincial Parks	Essex Kent Lambton	7% 23% 47%	0%	0%	100%
Significant Earth Science Features[2] 12	6 sites presently protected*	6 sites additional to be protected*	Existing Provincial Parks, proposed Nature Reserves, Federal, Municipal, Conservation Authority & Private Lands are all significant for earth science, life science & historical features	Essex Kent Lambton	33% 8% 59%	8%	42%	50%
Significant Life Science Features[2] 22	8 sites presently protected*	14 sites additional to be protected*		Essex Kent Lambton	45% 25% 30%	15%	35%	50%
Historical (unknown)*	8 historical themes*							

(1) Woodland Improvement Act.
(2) Represents either the total number of sites to be protected by the year 2000, or the number of sites presently protected, or the additional (potential) number of sites to be protected between now & the year 2000.

CHATHAM DISTRICT

SUMMARY OF PROGRAM TARGETS BY COUNTY

Figure 3


5 0 5 10 15 20 Kilometres
5 0 5 10 15 Miles
Provincial Highway
Municipal Boundary
WINGHAM DISTRICT
AYLMER DISTRICT
LAMBTON COUNTY
% of District Target
0 50 100
Forestry Volume
Mineral Aggregate Weight
Waterfowl Hunting Number of Opportunities
Day Use Recreation Number of Opportunities
Extended Use Recreation Number of Opportunities
Commercial Fishing Weight
Fur Number of Pelts
Small Game Hunting Number of Opportunities
Big Game Hunting Number of Opportunities
Sport Fishing Number of Opportunities
Earth & Life Science Features Number of Features
ESSEX COUNTY
% of District Target
0 50 100
Forestry Volume
Mineral Aggregate Weight
Waterfowl Hunting Number of Opportunities
Day Use Recreation Number of Opportunities
Extended Use Recreation Number of Opportunities
Commercial Fishing Weight
Fur Number of Pelts
Small Game Hunting Number of Opportunities
Big Game Hunting Number of Opportunities
Sport Fishing Number of Opportunities
Earth & Life Science Features Number of Features
KENT COUNTY
% of District Target
0 50 100
Forestry Volume
Mineral Aggregate Weight
Waterfowl Hunting Number of Opportunities
Day Use Recreation Number of Opportunities
Extended Use Recreation Number of Opportunities
Commercial Fishing Weight
Fur Number of Pelts
Small Game Hunting Number of Opportunities
Big Game Hunting Number of Opportunities
Sport Fishing Number of Opportunities
Earth & Life Science Features Number of Features
L A M B T O N
K E N T
E S S E X
Ministry of Natural Resources
Ontario

Direction for ministry activities in Chatham District is provided in two parts: General Policies and Specific Policies. General Policies are integrated resource management, public safety, environment and energy. These have application to all ministry programs and are described in the following section of the report.

Specific Policies provide additional direction to individual ministry programs. These are outlined in Part IV.

A: integrated resource management

1. POLICY STATEMENT

Programs will be integrated to ensure the efficient use of land and water to achieve ministry objectives.

2. DISCUSSION

Target evaluation has demonstrated that although the direction proposed by the ministry is potentially achievable, many activities must be carried out on the same general areas of land. To be effective and efficient in achieving its objectives, the ministry must integrate its activities.

3. STRATEGY

The ministry plans to:

- apply the concept of multiple use to land and water management as follows:
  - by normally requiring or encouraging two or more compatible activities on the same major areas, particularly on public land holdings;
  - by encouraging sequential use where appropriate, so that one use is followed by another in planned sequence. For example, gravel extraction followed by residential development and use;
  - by recognizing that, in some circumstances, management of areas for a single purpose such as extraction, protection or recreation is necessary; and
  - by ensuring that each program contributes, to the extent possible, to the achievement of other program objectives, particularly as suggested in Part VI. Individual area management plans will be directed to achieving as many ministry objectives as possible to ensure integrated management and increased efficiency;
- permit interim use of candidate nature reserves providing that park values are protected. Uses and facilities which complement the achievement of park objectives will be encouraged; uses which have no significant negative impact on the long-term achievement of park objectives will be permitted with judicious controls; and uses which would conflict with the long-term achievement of park objectives will be prohibited;
- encourage integration of its resource management activities as much as possible with private landowners, municipalities, and other agen-

cies, particularly the Ausable-Bayfield, Essex Region, Lower Thames Valley and St. Clair Region Conservation Authorities to ensure that programs are compatible and complementary;
- encourage integration of the watershed planning program of the conservation authorities' with the ministry's strategic planning program; and
- obtain co-ordinated comment from all programs that may be affected by applications or proposals for land and water-using activities.

Additional direction for integration is provided within the Specific Policies of each program, Part IV, and within Integration and Application sections, Parts V and VI, respectively, of this report.

B: public safety

1. POLICY STATEMENTS

The ministry will seek to eliminate loss of life and to minimize property damage and community disruption resulting from floods, erosion, earth slippage and forest fires.

The ministry will seek to eliminate injury and loss of life from hazards around abandoned pits, quarries, mine shafts, and natural gas and oil wells.

The ministry will promote the safe pursuit of outdoor recreation and resource production activities.

2. DISCUSSION

The ministry proposes to achieve the first policy stated above in co-operation with conservation authorities and municipalities, through efforts in stream flow forecasting, contingency planning, emergency response, forest protection and through input to floodplain regulations, and municipal official plans and zoning by-laws; the second policy statement in conjunction with the Ministry of Labour through field inspection of ongoing mining operations and abandoned pits, quarries, mines, and oil and natural gas wells; and the third policy statement with other agencies and in co-operation with various special interest groups.

3. STRATEGY

To contribute to public safety, the ministry plans to:
- implement provincial floodplain management policies through plan review in co-operation with conservation authorities, municipalities, and the Ministry of Municipal Affairs and Housing. The following policy principles and guidelines will be followed:
  - floodplain management policies will be based on an evaluation of all relevant social, economic, physical and environmental factors;
  - floodplain management policies will take place within an overall, co-ordinated land use and watershed planning framework;
  - whenever feasible, existing developments within the floodplain will be protected against major flood losses;
  - future land uses which will be susceptible to significant flood damages or which will increase flood damages to existing uses will not be permitted within the floodplain. While the Province has adopted a general policy of no development, there are provisions made for considering and accommodating exceptional circumstances; and
  - floodplain management policies will be developed and administered in a manner which promotes public understanding and acceptance;
- assist conservation authorities in encouraging member municipalities to adopt and implement flood protection through remedial works;
- participate in a planned program for response to flood emergencies by maintaining flood emergency plans for Chatham District and by assisting conservation authorities in encouraging member municipalities to develop local

flood emergency plans;
- ensure that erosion control measures on Crown shorelands are carried out with due respect for the environment and the interests of other adjacent landowners;
- in conjunction with the Ministry of Labour, continue to inspect abandoned pits, quarries and mine shafts, and ensure that appropriate actions are taken to minimize hazards to the public;
- ensure that unsafe abandoned gas and oil wells are properly considered in designing new development;
- ensure that improperly plugged oil and gas wells are made safe;
- annually undertake airborne surveys of Lake Erie to identify leaking gas wells or gathering lines;
- continue to provide fish flesh samples for the contaminants monitoring program to identify chemicals and their sources which are contaminating fish species; and
- promote hunter safety training and trapper education programs.

C: environment

1. POLICY STATEMENT

The ministry will conduct its activities in an environmentally responsible manner.

2. STRATEGY

To ensure the achievement of the environmental policy, the ministry plans to:
- manage renewable resources such as forests, wildlife and fisheries on a biologically sound basis;
- encourage programs that manage non-renewable resources to meet current demand by considering anticipated future needs, the protection of non-renewable resources from incompatible activities, the use of lower quality materials as opposed to high quality materials where they would suffice, substitution of alternate materials and recycling end products to reduce resource depletion;
- identify and encourage protection of unique, representative or endangered physical, biological, cultural and historical features on Crown land and private lands;
- identify and protect endangered species and their habitat through designation under the *Endangered Species Act* and through management activities or other feasible measures;
- encourage consideration of all wetland values in municipal planning and the planning of other agencies;
- work closely with other agencies and groups, particularly the Ministry of Agriculture and Food, Ministry of the Environment, conservation authorities, municipalities and landowners to promote land use practices which help conserve natural resources, such as the prevention of soil erosion, retention of forested lands and maintenance of water quality;
- recognize areas of natural and scientific interest in the management and implementation of its various programs; and
- work closely with other government agencies to monitor the effect of contaminants such as acid rain on the achievement of ministry objectives. Of particular concern is the potential effect of acid rain on vegetation.

Additionally, there is the concern for water quality throughout the Great Lakes, their watersheds and river basins.

D: energy

1. POLICY STATEMENT

The ministry will undertake its resource management programs so as to contribute to provincial energy objectives.

2. DISCUSSION

As outlined in *Energy Security for the Eighties: A Policy for Ontario*, the province is committed to a major effort to increase its capacity for energy self-sufficiency. The policy states that by 1995, Ontario will supply a minimum of 37.5 percent of its energy from sources within the province (1978 amount was 23 percent). It further states that by 1995, at least 15 percent of Ontario's energy will be from renewable and recoverable resources, including hydraulic resources (1978 amount was 13 percent).

3. STRATEGY

To contribute to achievement of the government's energy policy, the district plans to:

- increase energy conservation efforts in daily ministry operations;
- protect by its plan review activities, the availability of known gas and oil pools for extraction;
- encourage exploration and production of natural gas and oil; and
- increase efforts to make fuelwood available to the public.

These are further discussed in the Specific Policies of the Forestry, and Minerals and Fossil Fuels programs, Part IV.

A: forestry

1. OBJECTIVE

The objective for forestry in southern Ontario is to provide for an optimum contribution to the economy by forest-based industries consistent with sound environmental practices, and to provide for other uses of the forest.

2. TARGETS

The targets for forestry in Chatham District are:

- to produce an annual continuous supply of 58,050 cubic metres (2.05 million cubic feet) of wood for industrial purposes by the year 2020 while maintaining the present diversity of forest products; and
- to make the maximum contribution from forest production to the achievement of the provincial energy target. This is estimated to be 2 percent or more of total energy needs by the year 2000.

3. DISCUSSION

Within Chatham District 28,950 hectares (71,520 acres) or 4 percent of the land base is productive forested land, most of which is in Lambton County. Forest cover is 1.4 percent of Essex, 2.4 percent of Kent and 7 percent of Lambton according to a preliminary 1978 air photo analysis. Hardwoods predominate.

Despite the limited forested land base, 13 sawmills operate in the district to process some 17,840 m^3 (0.63 million cubic feet net merchantable volume) annually. The majority of wood harvested however, is processed elsewhere. Due to a historic decrease in log size and quality, total harvest is believed to be greater than the estimated present annual allowable cut of 101,300 m^3 (3.58 million cubic feet net merchantable volume). See Table 2.

With intensive management, the current average annual growth of 3.5 m^3 per hectare (50 cubic feet per acre) can be increased to 4.2 m^3 per hectare (60 cubic feet per acre), to permit a potential annual allowable harvest of 120,500 m^3 (4.29 million cubic feet) from existing woodlots. Estimates are in terms of net merchantable volume.

The productive capacity and timber quality of the average woodlot has been greatly reduced by a general lack of management and a history of pasturing, overcutting and highgrading. The large number of individual landowners involved, the small size and scattered distribution of woodlots, and the rapid clearing of forest cover inhibit effective forest resource management.

Woodlot clearing continues to reduce the existing forest potential. From 1958 to 1978, forest cover decreased by 30 percent while reforestation was minimal. Little of the forest is managed under *Woodland Improvement Act* agreements. In 1980, only 5 percent or 2,348 hectares (5,800 acres) of the private land forest was administered under 286 agreements within the district.

Owing to higher rates of growth, better species quality and greater ease of management, significantly higher timber values per hectare, compared to other areas of the province, can be achieved

TABLE 2 FORESTRY SUMMARY

Estimated Current Annual Allowable Cut (Net Merchantable Volume)	Estimated Potential Allowable Cut from Existing Woodlots with Increased Management (Net Merchantable Volume)	Target (Net Merchantable Volume)
101,300 m^3	120,500 m^3	58,050 m^3

Note: Total harvest is believed to be greater than the estimated current annual allowable cut of 101,300 m^3.

from these relatively small parcels of forested land, if managed. Fertile soils, moderated temperatures, woodlots easily accessible from existing roadways, infrequent fires and minimal pest problems are major advantages contributing to greater productivity.

Although the volume target can be achieved without intensive management of every woodlot, management efforts are necessary to ensure continued and improved supplies of high quality heavy hardwoods and to help offset current overharvesting. In addition, forest cover provides other benefits such as erosion control, aesthetics and wildlife habitat.

With the exception of three small agreement forests, virtually all of the annual allowable harvest for forest products is, and will continue to be taken from private land. Thus, private land is essential to the achievement of the forestry targets.

The intent is to maintain each county's present contribution of wood products. Consequently, Lambton County will continue to provide 69 percent of the district's forest target, while Kent and Essex will provide 21 and 10 percent, respectively.

In addition to the production of wood for industrial purposes, there is the substantial value of forests for other uses. An example is fuelwood, which is a by-product of wood production and woodlot improvement. In Chatham District, there is a potential to produce 45,000 cords of fuelwood per annum if 10 percent of the forests are properly thinned each year.

4. STRATEGY

To achieve the forestry targets, the ministry plans to:

- on existing productive forest land:
  - continue to maintain current forestry commitments including *Woodland Improvement Act* agreements, agreement forests under the *Forestry Act* and commitments on certain Crown lands as shown in Figure 4; and
  - expand its influence to:
    - discourage further loss of productive forest land; and
    - encourage sound silvicultural practices in all woodlots; and
- promote new forest cover:
  - to offset anticipated loss of productive forest land. Efforts will be directed toward the most productive sites not under or suitable for agricultural production, and towards quality heavy hardwoods, particularly black walnut; and
  - to provide benefits such as windbreaks to the agricultural community.

5. INTEGRATION

Forestry activities will consider and contribute to the objectives of other programs as outlined in Table 11, Part V, and in the Application section, Part VI, of the report.

In particular, the forestry program will incorporate forest management prescriptions which maintain and enhance important wildlife habitats.

B: mineral aggregate

1. OBJECTIVE

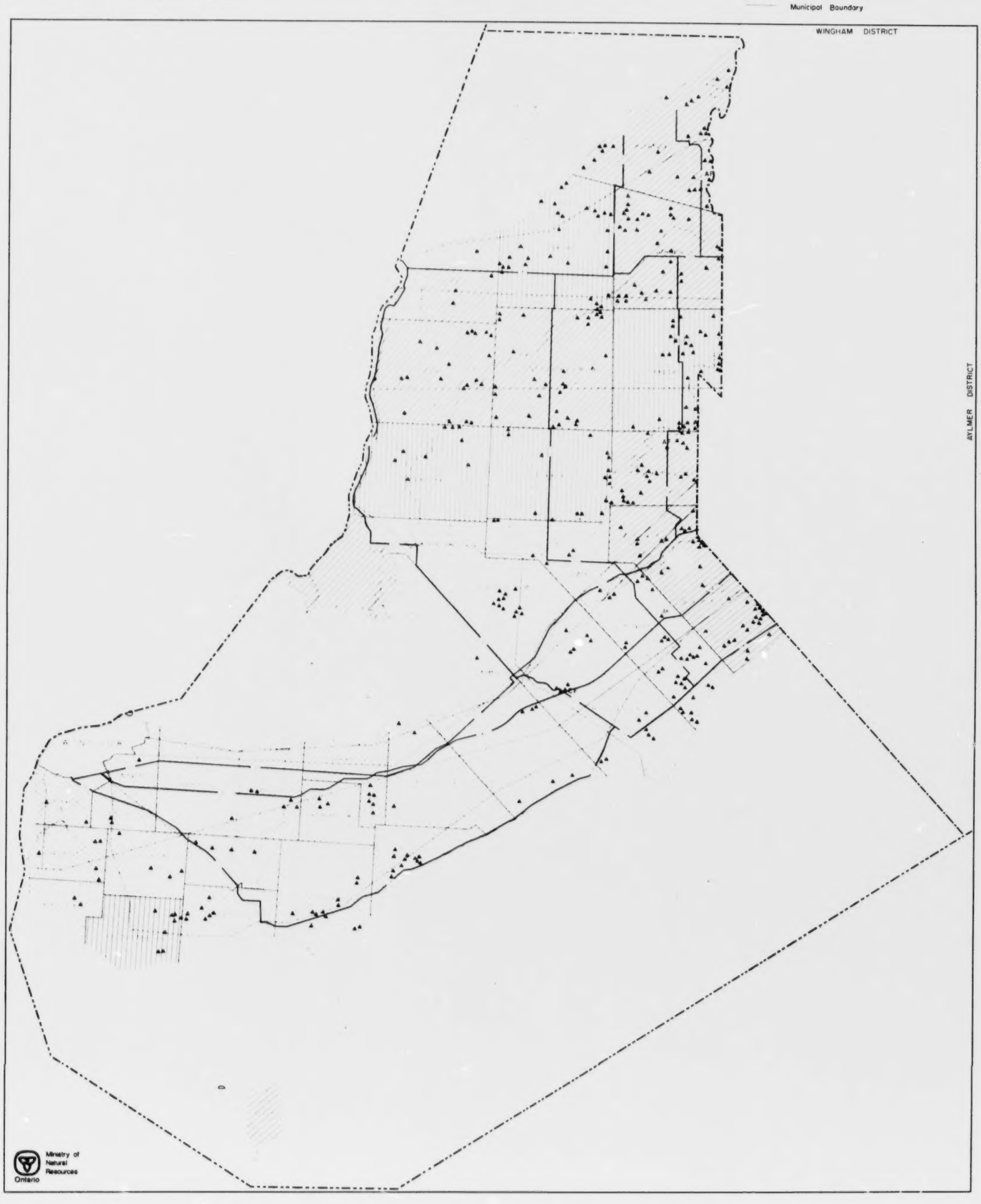
The objective for mineral aggregate production in southern Ontario is to meet anticipated future demand with minimal disturbance to natural and cultural resources and the social environment.

2. TARGET

The target for mineral aggregate production in Chatham District is to ensure a total cumulative supply of 119 million tonnes (131 million tons) for the period 1982 to 2000.

CHATHAM DISTRICT
FOREST RESOURCES PROGRAM

Figure 4



3. DISCUSSION

In 1980, the annual total aggregate production from 121 pits and 4 quarries in Chatham District was 7 million tonnes (7.7 million tons). Pit operations produced 4 million tonnes (4.4 million tons) of aggregate from sand and gravel (or granular aggregate) deposits in the district mainly for use in construction, while quarry operations produced 3 million tonnes (3.3 million tons) of aggregate from crushable stone deposits for use in construction and lime manufacture (Table 3). Additionally, the clay products industry utilized clay and shale from local deposits mainly in the making of drain tiles.

Owing to limited, known, quality aggregate resources, and local shortages in general, some municipalities within Chatham District import aggregate. Approximately 25 percent of the district's total annual aggregate consumption is imported, the majority as crushed stone via the district's Great Lake ports with lesser quantities of sand and gravel from Middlesex County. In total, the district annually consumes 9.4 million tonnes (10.3 million tons), while producing only 7 million tonnes (7.7 million tons).

The target provides for the current production level of 7 million tonnes of sand, gravel, and crushed stone to be maintained annually to the year 2000. While no growth in annual production is assumed by the target, importation of aggregate, which is not part of the target, may vary from present levels. Based on present trends, 72 percent of the target will come from Essex County, with 24 and 4 percent, respectively, from Kent and Lambton Counties.

As shown in Table 3, anticipated aggregate requirements of 68 million tonnes of sand and gravel cannot be met within existing licenced pits. Approximately 30 million tonnes must come from other deposits. Projected crushed stone production, however, can be met from within existing licenced quarries.

The target does not consider the non-renewable nature of the resource, demands beyond the year 2000, nor the difficulty of maintaining access or assuring the quality of the potential supply. Consequently, land uses should be encouraged which keep as many future options open as possible. The ministry cannot guarantee what extraction level will occur from existing licenced pits and quarries, or from other areas of potential.

As a means of providing for the future, it is often necessary to maintain the resource potential of more aggregate than the target would suggest.

Thus, the ministry is seeking to identify and maintain the potential of sufficient aggregate to meet the target (taking the difficulties of supply into consideration) and to keep future options open. Consequently, the ministry is not seeking designation of large areas as 'aggregate extraction' — rather it is seeking, where possible, designations such as 'agriculture' and 'forestry', which provide for on-going uses without closing the door on the future.

Figure 5 depicts aggregate resources in Chatham District. Considering the above factors, the ministry will seek compatible uses for as much of the mapped area as possible.

The district's aggregate production is almost entirely on private land. Some farmland may be removed temporarily from production. However, compared to the total productive agricultural base the potential impact of sand and gravel extraction outside licenced pits is minimal (less than 0.01 percent). Since most deposits are less than 10 feet in depth, rehabilitation can achieve the

TABLE 3 MINERAL AGGREGATE SUMMARY (million tonnes)

Aggregate Type	Present Annual Consumption of Aggregate (1980)	Annual Production in District (1980)	Aggregate Potential in Licenced Pits and Quarries (1981)	Aggregate Potential in High Potential Resource Deposits outside Licenced Pits	Targets[1]
Sand and Gravel	9.4	4	38	511	(68)
Stone		3	108	865	(51)
Total	9.4	7	146	1,376	119

(1) The potential represents the gross total volume. Reductions for land use constraints have not been taken into consideration. A tentative allocation to sand and gravel, and stone is presented to allow comparison of anticipated requirements.

desired ends. Subject to certain constraints, such as height of the water table, a pit or quarry can be rehabilitated to almost any desired after use such as agriculture, recreation, housing, forestry, commercial or industrial uses.

4. STRATEGY

To achieve the mineral aggregate target, the ministry plans to:

- maintain:
  - legally existing pits and quarries from on-site or adjacent incompatible land uses;
  - high potential over low potential resources where appropriate; and
  - accessible resources (closest to markets and including resources along highway corridors) in preference to more distant deposits;
- encourage the utilization of aggregate reserves prior to use of the land for a purpose which would be incompatible with extraction;
- ensure that lands affected by extraction activities are rehabilitated either through restoring the land to its former use or condition or to another use or condition that is or will be compatible with the use of adjacent lands;
- encourage progressive rehabilitation on a continuing basis throughout the period of extraction to the greatest extent possible; and
- seek to ensure the continued importation and storage of aggregate at new and existing Great Lake docks recognizing that the district is a net importer of aggregate and that the target represents only a portion of anticipated aggregate consumption.

5. INTEGRATION

The ministry's mineral aggregate activities will consider and contribute to the objectives of other ministry programs as outlined in Table 11, Part V and in the Application section, Part VI, of the report. In addition, the ministry will encourage sequential use of land for all extractive operations.

C: minerals and fossil fuels

1. OBJECTIVE

The objective for minerals and fossil fuels in southern Ontario is to provide for a strengthening of the contribution of these resources to provincial economic development and energy production.

2. TARGETS

The target for mineral resources in Chatham District is to keep as much land open as possible for mineral exploration and development.

The target for oil and gas is to encourage as much exploration and production as possible to maximize their contribution to provincial energy needs.

Specific mineral and fossil fuel production targets cannot be established because of the difficulties in predicting market trends and assessing resource potential and because actual production is primarily a responsibility of the private sector.

3. DISCUSSION

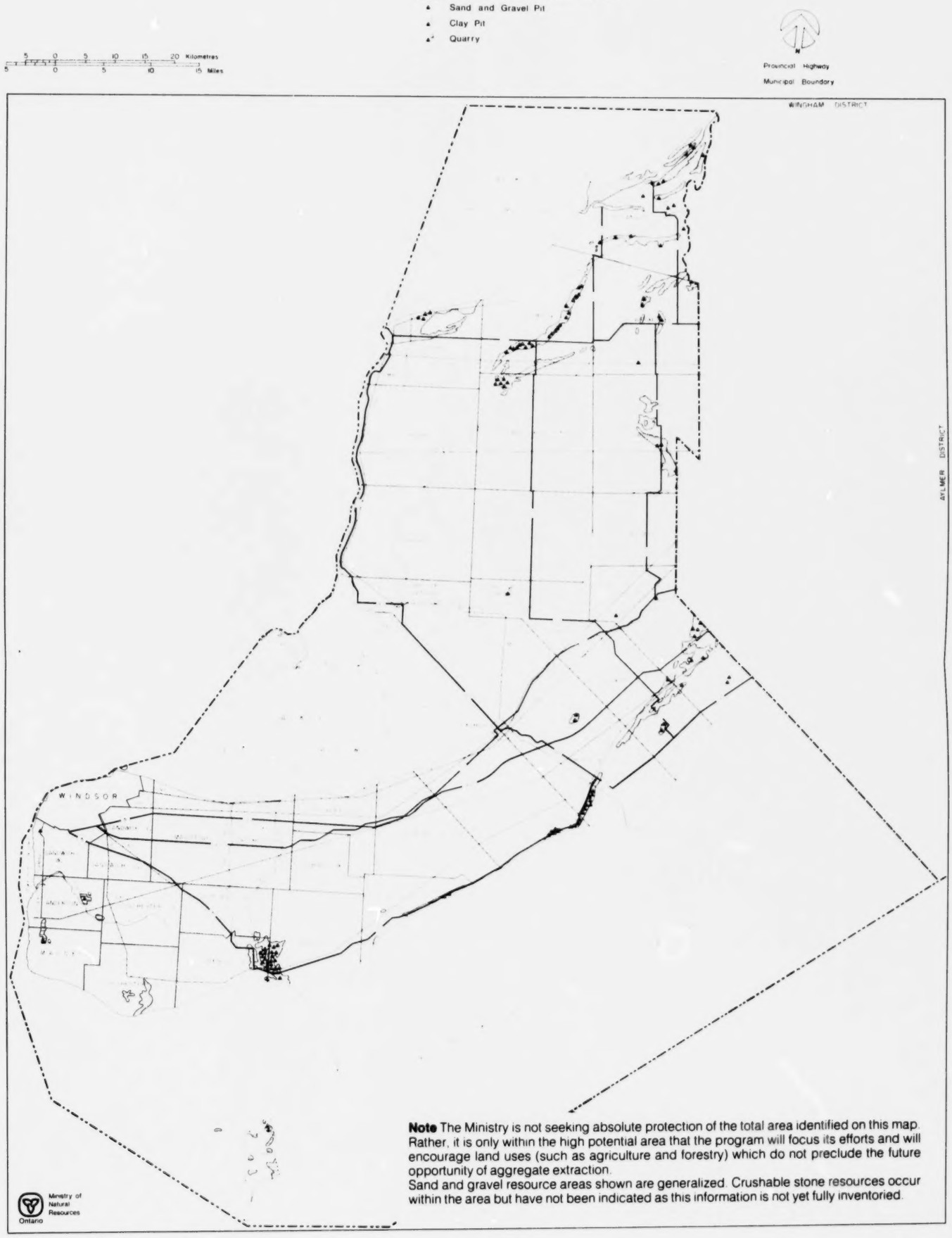
Oil and natural gas are actively produced in Chatham District. Some 53,167 m^3 (336,494 barrels) of oil, and 195,124.6 10^3 m^3 (6,891,000 Mcf) of gas were produced in 1980, of which Lambton County was the major producer.

During 1978, Ontario produced less than 0.1 percent of the provincial consumption of oil and about 0.2 percent of its natural gas consumption. No specific percentage increase of oil and gas production can be set at this time since many of the areas are unexplored, and therefore potential reserves are unknown. The published recoverable reserves of oil and gas in Ontario are out of date and need revision.

Oil and gas production occurs throughout the district, including gas production from the central and eastern basins of Lake Erie. Exploratory drilling for oil and gas is prohibited in the western basin of Lake Erie, Lake St. Clair, and southern

CHATHAM DISTRICT
MINERAL AGGREGATE RESOURCES PROGRAM

Figure 5



Note The Ministry is not seeking absolute protection of the total area identified on this map. Rather, it is only within the high potential area that the program will focus its efforts and will encourage land uses (such as agriculture and forestry) which do not preclude the future opportunity of aggregate extraction.
Sand and gravel resource areas shown are generalized. Crushable stone resources occur within the area but have not been indicated as this information is not yet fully inventoried.

CHATHAM DISTRICT

FOSSIL FUELS PROGRAM

Figure 6

Lake Huron, under a joint United States-Canada agreement through the International Joint Commission.

Annual production of oil and gas depends upon factors outside provincial jurisdiction such as pricing. Since the mid 1960's, oil production has declined while gas production has increased. However, in order to contribute as much as possible to provincial energy needs by the year 2000, as stated in *Energy Security for the Eighties: A Policy for Ontario,* new reserves must be discovered.

An important aspect of the petroleum industry is the use of depleted reservoirs for gas storage.

The district is also important provincially for the production of salt. In 1981, 3.4 million tonnes (3.7 million tons) of salt were produced, approximately 2.1 million tonnes (2.3 million tons) from underground mines near Windsor, and 1.3 million tonnes (1.4 million tons) from brine well operations near Windsor and Sarnia. Sufficient reserves remain to meet any projected future demand. Salt markets have been historically growing at a rate of 2 to 3 percent per year.

Southwestern Region geological staff are currently conducting inventories of mineral and non-mineral resources such as peat, lead, zinc, and gypsum. A three year program to evaluate Ontario's known and potential oil and gas reserves began in December 1982, while the Ontario Geological Survey is currently assessing the oil shale potential of Chatham District as well as other districts within Southwestern Region.

4. STRATEGY

To meet the mineral and fossil fuel targets, the ministry plans to:

- abide by the existing international agreement concerning oil and gas extraction on the Great Lakes. Proposals for expanded areas of production on the Great Lakes will require discussion with the Great Lakes International Joint Commission, and consideration of the impacts on the environment;
- encourage exploration of potential oil and gas bearing deposits;
- optimum production consistent with good engineering principles from existing oil and gas reservoirs as shown in Figure 6;
- wherever possible, keep acquired public lands open to exploration;
- ensure that exploration and extraction are carried out in a manner which will minimize disturbance to the natural, cultural and social environment; and
- ensure mineral values are evaluated before committing significant areas of public land to uses that would preclude mining. The ministry, where possible, will permit exploration under controlled conditions before an area is permanently assigned to uses other than mining.

5. INTEGRATION

Exploration for, and production of, oil, natural gas and other minerals will consider the objectives of other ministry programs as outlined in Table 11, Part V and in the Application section, Part VI, of this report.

D: fisheries

1. OBJECTIVE

The objective for fisheries management in southern Ontario is to provide opportunities for recreation and economic benefits consistent with the maintenance of healthy fish communities.

More specific objectives are:

Sport Fishing

- to meet demand within the limits of a wisely managed and rehabilitated resource;

Commercial Fishing

- to maintain a viable industry;

Bait Fishing

- to maintain current production; and

Provincially Rare and Endangered Species
- to prevent the extinction of any native species.

2. TARGETS

The targets for Chatham District are:
Sport Fishing
- to provide 905,500 opportunities annually by the year 2000;

Commercial Fishing
- to provide 8,619,300 kilograms (19,002,000 pounds) of fish annually by the year 2000;

Bait Fishing
- to provide 2,122,000 dozen fish annually from natural sources, (this production is in addition to the commercial fishing target); and

Provincially Rare and Endangered Species
- to ensure no native fish species become extinct.

3. DISCUSSION

The ministry's approach to fisheries management establishes long term targets based on sustainable yields. However, there may be short term fluctuations in harvests in response to changing circumstances.

The requirements for status Indians with treaty rights are provided for in the sport and commercial targets.

Stocked species provided by United States fisheries management programs have not been considered.

To protect the fisheries resources, the ministry is working with American jurisdictions to ensure that balanced harvests of fish stocks are assured and management strategies are compatible.

In Chatham District, both angling for sport fish and sport fishing by other means occurs. The sport fishing target of 905,500 opportunities includes fish taken by both means.

Sport fishing by other means is mostly dip and seine netting for smelt. Some 834,550 kilograms (1,839,837 pounds) of smelt are netted annually from Lake Erie. Efforts will be made to sustain this activity to the year 2000. It is estimated that up to 45,000 smelt netting opportunities of satisfactory quality can be provided from this resource (Table 4).

The angling portion of the sport fishing target is 860,500 opportunities (560,700 from Lake Erie, 191,000 from Lake St. Clair, 35,000 from Lake Huron and 73,800 from inland waters—see Table 4).

The angling portion of the sport fish production target of 860,500 opportunities is about 130 percent more than the current estimated annual angling opportunities of 370,400 and is within the biological potential of the resource. The full potential of the resource may not be realized, however, owing to the selective harvest of desired species, declining habitat and access restrictions, both from private land and to difficulty of access to distant offshore fisheries.

Of particular concern is the adverse impact of land use activities on fish production. Activities such as removal of vegetation, intensive row crop agricultural practices, use of herbicides, sewage disposal, and dredging and filling, alter water quality and increase sedimentation, which may impact on critical fish spawning and nursery areas and cause population imbalances.

TABLE 4 SPORT FISH SUMMARY

Waterbody	Present Opportunities	Potential Opportunities With Increased Management	Target Opportunities
Lake Erie	(66%)	(67%)	(67%)
a. Rondeau Bay	10,000	40,000	40,000
b. Lake Erie including Detroit River	218,400	520,700	520,700
c. Sport Smelt	45,000	45,000	45,000
Lake St. Clair	104,000 (25%)	191,000 (21%)	191,000 (21%)
Lake Huron	18,000 (4%)	35,000 (4%)	35,000 (4%)
Inland Waters	20,000 (5%)	73,800 (8%)	73,800 (8%)
Total	415,400	905,500	905,500

CHATHAM DISTRICT
FISHERIES PROGRAM

Figure 7

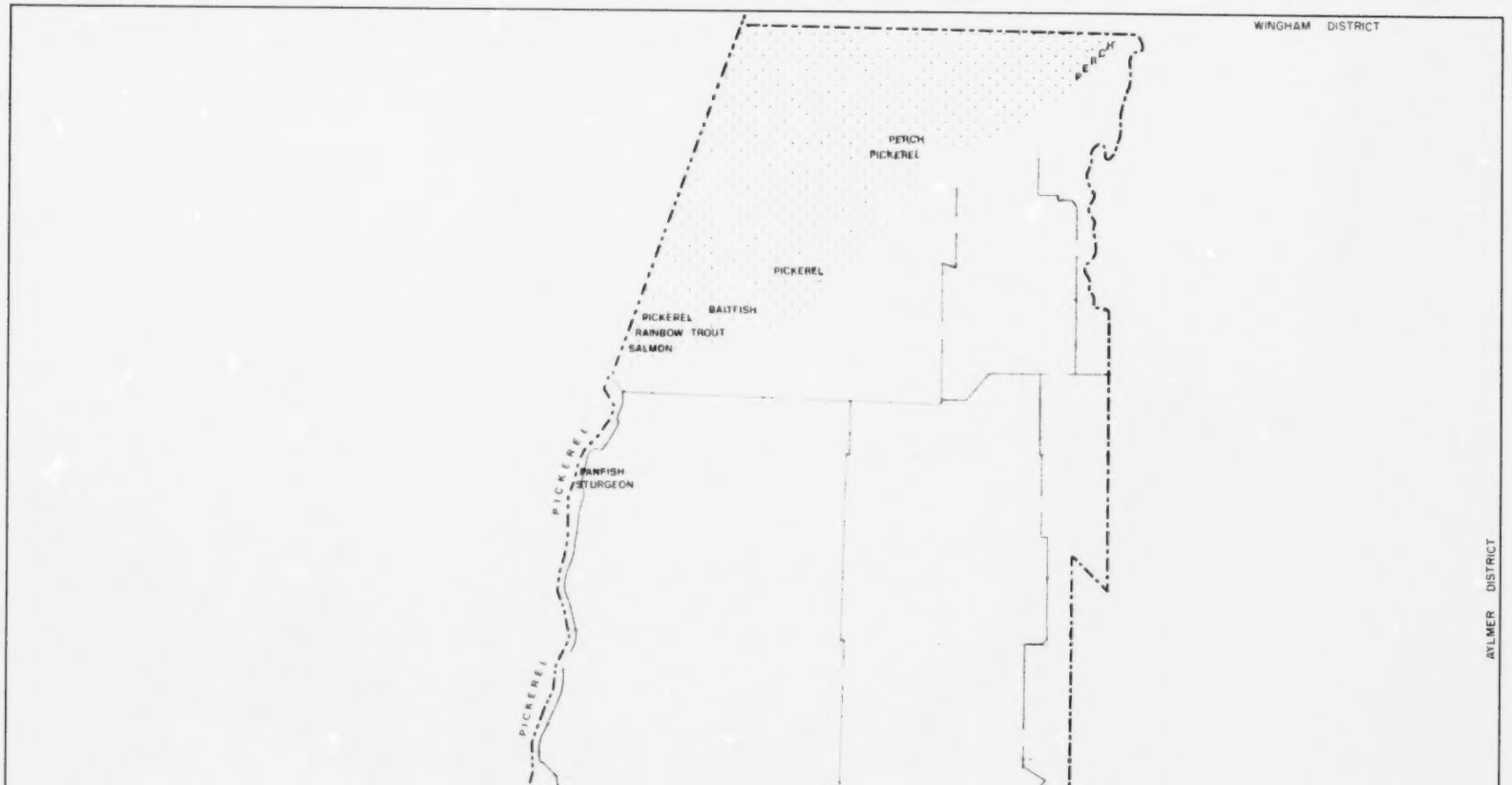
LEGEND

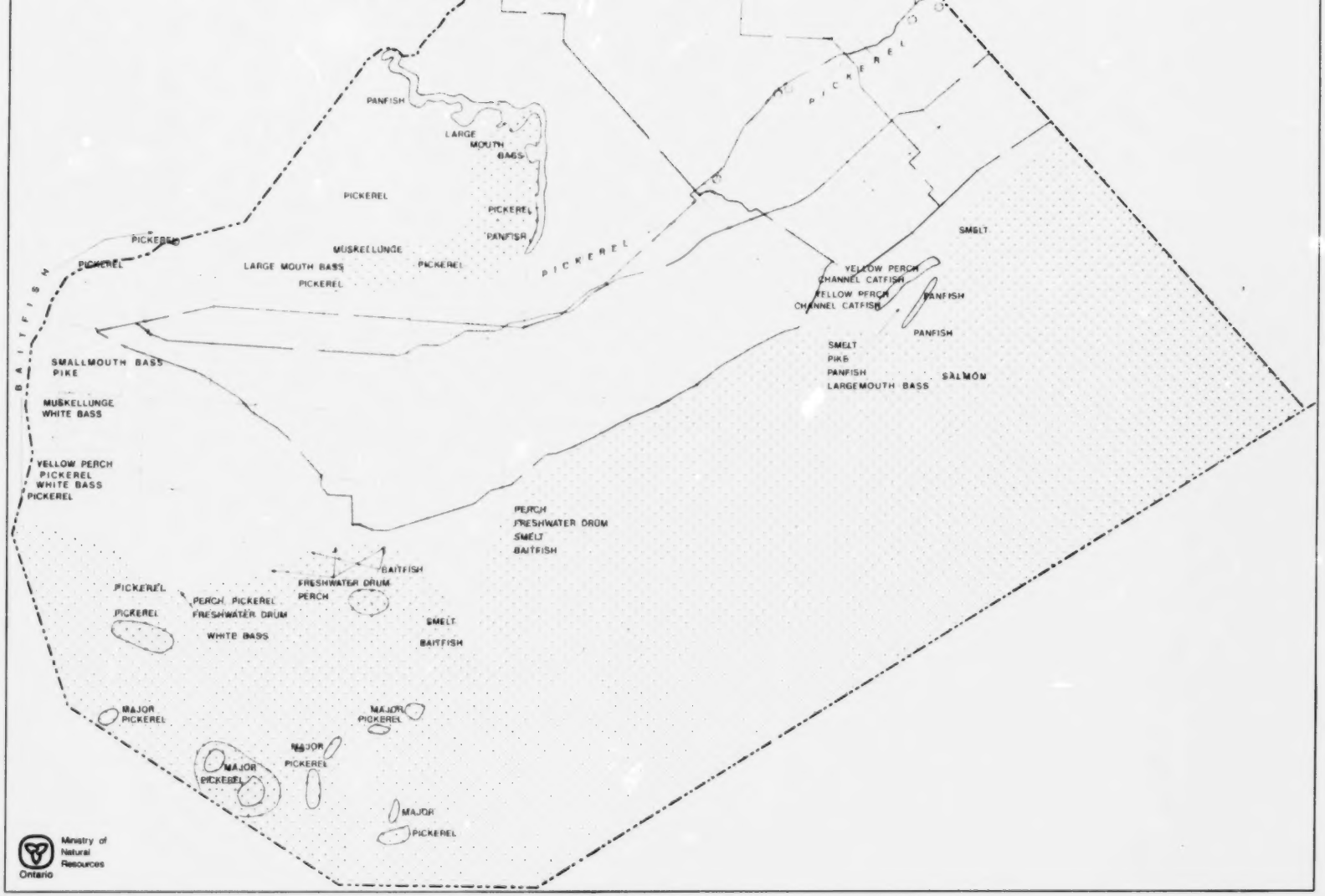
- Spawning Area (Yellow Pickerel)
- Nursery Area
- Commercial Fishing Grounds
- PIKE Sport Fishing Area
- BAITFISH Commercial Bait Fishing Area

5 0 5 10 15 20 Kilometres
5 0 5 10 15 Miles

N

Provincial Highway
Municipal Boundary




PANFISH
LARGE MOUTH BASS
PICKEREL
PICKEREL
PANFISH
MUSKELLUNGE
LARGE MOUTH BASS
PICKEREL
PICKEREL
PICKEREL
PICKEREL
PICKEREL
SMALLMOUTH BASS
PIKE
MUSKELLUNGE
WHITE BASS
YELLOW PERCH
PICKEREL
WHITE BASS
PICKEREL
BAITFISH
SMELT
PERCH
FRESHWATER DRUM
SMELT
BAITFISH
PICKEREL
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MAJOR
PICKEREL
SMELT
YELLOW PERCH
CHANNEL CATFISH
YELLOW PERCH
CHANNEL CATFISH
PANFISH
PANFISH
SMELT
PIKE
PANFISH
LARGEMOUTH BASS
SALMON
Ministry of Natural Resources
Ontario

TABLE 6 BAIT FISH SUMMARY

Waterbody	Present Use (dozens)	Potential Use (dozens)	Target (dozens)
Lake Erie	721,000 (52%)	720,000 (34%)	720,000 (34%)
Detroit River	305,000 (22%)	305,000 (14%)	305,000 (14%)
St. Clair River	112,000 (8%)	110,000 (5%)	110,000 (5%)
Lake St. Clair	23,000 (2%)	25,000 (1%)	25,000 (1%)
Lake Huron	223,000 (15%)	225,000 (11%)	225,000 (11%)
Total for the Great Lakes	1,384,000 (99%)	1,385,000 (65%)	1,385,000 (65%)
Inland Waters	11,000 (1%)	737,000 (35%)	737,000 (35%)
Total for the District	1,395,000	2,122,000	2,122,000

on Lake Erie

- regulate the harvest of major commercial species to prevent harvest from exceeding commercial allocation. The ministry will work with the commercial fishing associations to develop a quota management system that prevents over-harvesting of individual species and that encourages fishing for several species rather than the present emphasis on single species catches; and
- attempt to minimize conflicts between petroleum industry operations and commercial fishing trawlers;

on Lake St. Clair and Thames River

- reduce perceived angler-commercial fisherman competition. Trap net use will continue to be permitted and encouraged during spring and fall. Waters west of Belle River will be reserved for sport fishing, and the current ban on commercial harvest of yellow pickerel will be re-examined in the future; and
- protect yellow pickerel spawning migrations in the Thames River by maintaining commercial fishing beyond two kilometers of the mouth of the Thames River, and by maintaining a fish sanctuary on portions of the Thames River during the spawning period; and

on Lake Huron

- work towards the regulation by individual quotas of the major commercial species such as whitefish, yellow pickerel, yellow perch and lake trout; and
- work with commercial trap net fishermen and sport fishermen to reduce perceived conflicts in the near-shore waters during the summer recreation season.

5. INTEGRATION

Fisheries management activities will consider the objectives of other ministry programs as outlined in Table 11, Part V and in the Application section, Part VI, of this report.

CHATHAM DISTRICT
WILDLIFE PROGRAM

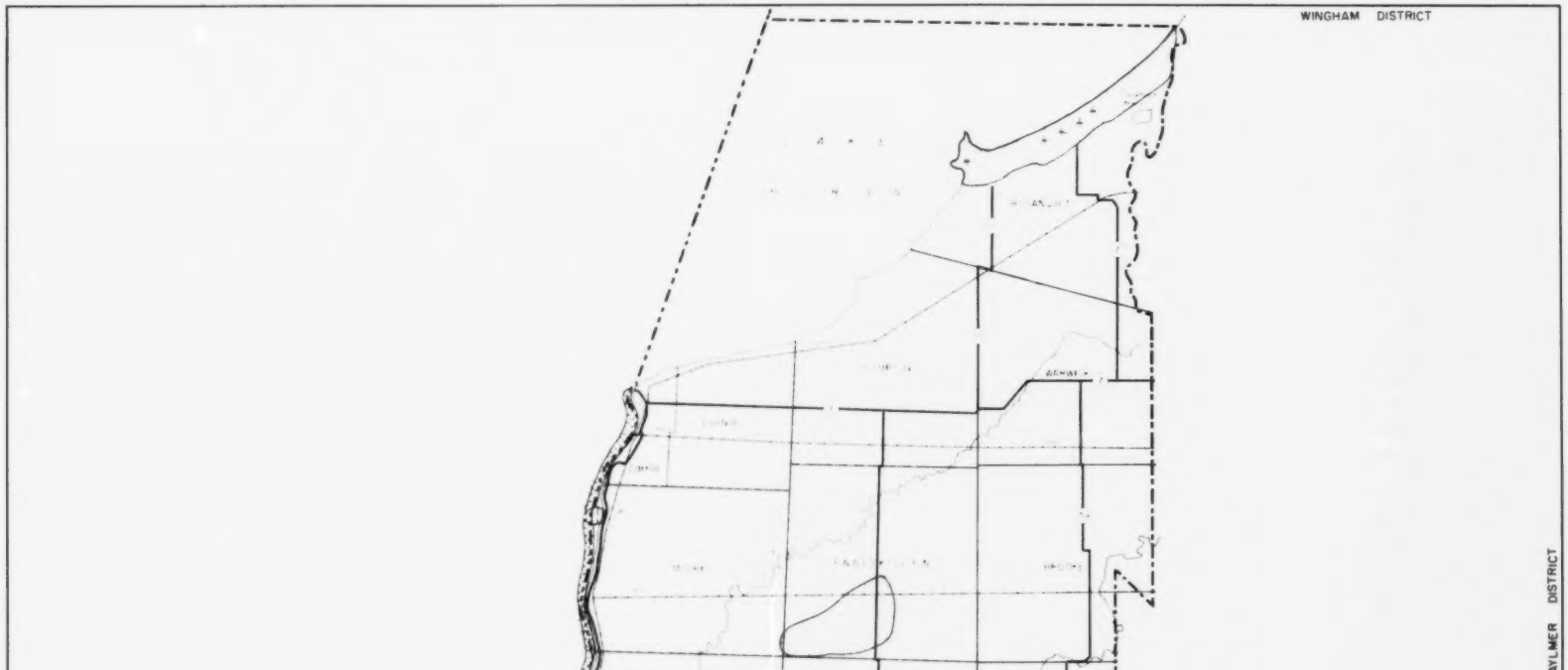
Figure 8

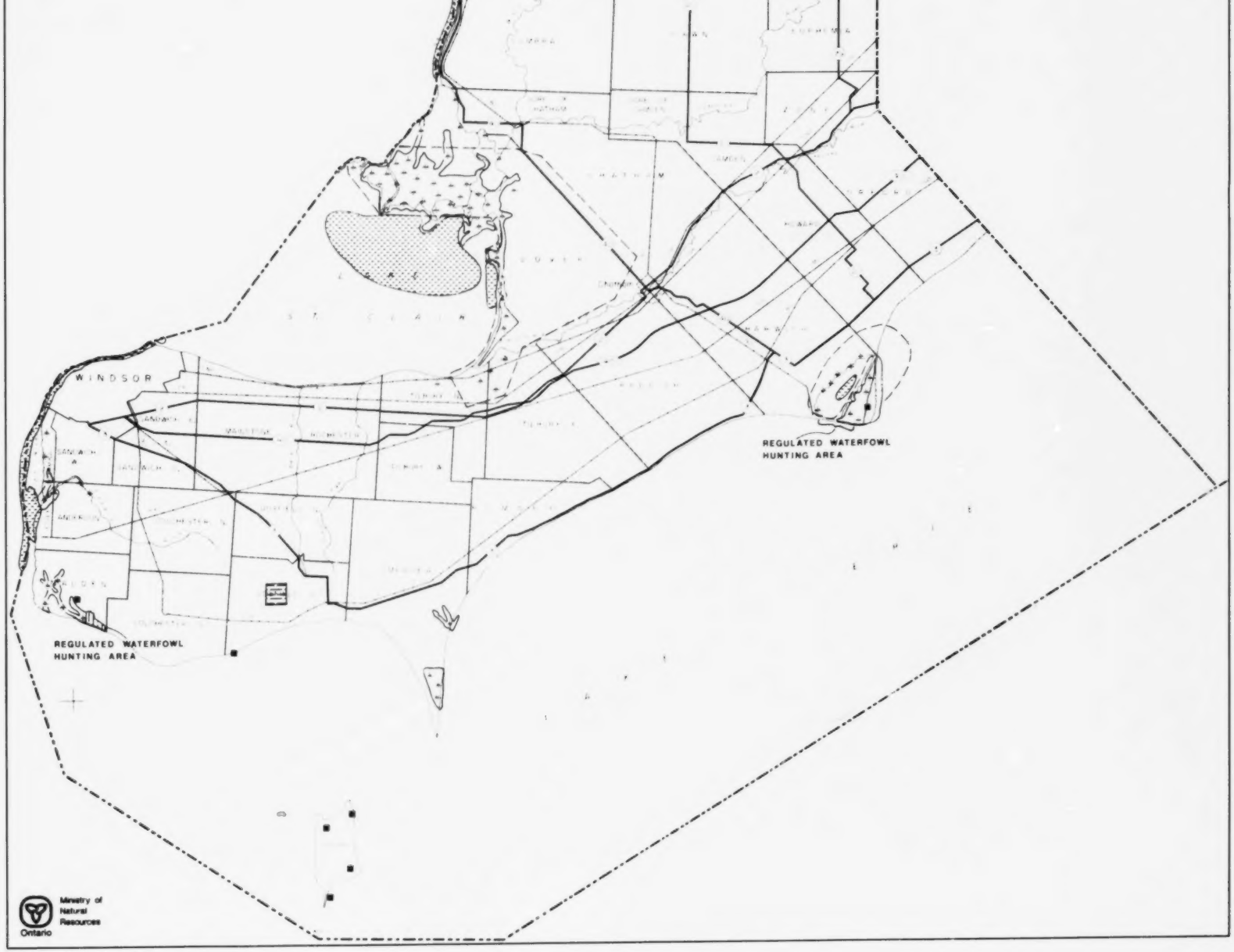
LEGEND
- Area Of Deer Concentration
- Wetlands Habitat
- Waterfowl Habitat
- Wildlife Management Area
- Waterfowl Rafting Area (Mainly During Fall Migration)
- Endangered Species Habitat

5 0 5 10 15 20 Kilometres
5 0 5 10 15 Miles

N

Provincial Highway
Municipal Boundary




WINDSOR
REGULATED WATERFOWL HUNTING AREA
REGULATED WATERFOWL HUNTING AREA
Ministry of Natural Resources
Ontario

E: wildlife

1. OBJECTIVE

The objective for wildlife management in southern Ontario is to provide opportunities for social and economic benefits from wildlife recreation and fur harvest consistent with the maintenance of healthy wildlife populations.

More specific objectives are:

Hunting

- to provide opportunities sufficient to maintain the present participation and quality of hunting by residents; and
- to maintain the contribution to the economy of hunting by non-residents;

Trapping

- to sustain the maximum yield from wild fur-bearer populations while maintaining the present diversity of fur types; and

Other Uses

- to prevent additional species from becoming endangered or threatened;
- to improve the status of existing endangered or threatened species with the objective of removing them from the endangered species list; and
- to maintain populations of all wildlife species (both non-game and game) at levels sufficient to:
  - provide opportunities for recreational enjoyment, aesthetic appreciation, scientific investigation, and educational uses;
  - provide benefits from tourism;
  - ensure environmental quality and ecosystem integrity; and
  - the safety of the public.

2. TARGETS

The targets for Chatham District are:

Hunting

- to provide by the year 2000, 245,800 opportunities of hunting recreation per annum, including 2,500 opportunities of big game hunting, 120,690 opportunities of small game hunting and 122,650 opportunities of waterfowl hunting;

Trapping

- to manage populations of wild furbearers such that an average harvest of 93,000 pelts can be achieved by the year 2000 while maintaining present species diversity; and

Other Uses

- a target for wildlife viewing has not been included due to the difficulty of measuring this activity and of assessing the influence of management actions;
- viewing targets will be defined through ongoing policy development and will be incorporated into the *Land Use Guidelines* at an appropriate opportunity; and
- to prevent the extinction of any native species.

3. DISCUSSION

The targets for wildlife are based on a projection of present rates of participation in hunting. A summary of current use and targets is given in Table 7.

TABLE 7 WILDLIFE SUMMARY

ACTIVITY	PRESENT USE (recreation opportunities, no. of pelts taken)	POTENTIAL	TARGET
Big Game Hunting	1,480	3,260	2,500
Small Game Hunting	92,500	150,000	120,690
Waterfowl Hunting	98,600	178,000	122,650
Trapping	104,100	93,000	93,000

The target for big game hunting provides for a 68 percent increase in opportunities. If present forest cover is maintained, the target can be achieved from existing deer populations. Deer concentrations occur around Pinery and Rondeau Provincial Parks. Approximately 79 percent of the target will be achieved in Lambton County, 16 percent in Kent, and 5 percent in Essex. Much of the resource, however, is currently unavailable due to restrictive regulations and limited access. Both must be improved to achieve the target.

Small game hunter participation and total harvest have declined in recent years, while success levels have remained stable. Present use is some 40 percent less than potential. Full use of the potential, however, may be hampered by loss of habitat and declining hunting opportunities. As a result, the target is somewhat less than the potential, although greater than present use. The target is capable of being met through increased emphasis on preservation of forest cover, habitat management and encouragement of access to private lands.

The target for waterfowl hunting while providing for a 25 percent increase in hunting opportunities, also reflects an anticipated decline in habitat and hunting opportunities, as the target is 30 percent less than potential. The target is capable of being met by preserving and maintaining wetlands, and rafting and staging areas, and by encouraging access to private lands. Approximately 50 percent of the target will be achieved in Kent County, 37 percent in Essex, and 13 percent in Lambton.

Muskrat, raccoon and to a lesser extent, fox, mink, coyote, beaver, skunk and weasel are harvested annually in Chatham District. Muskrat represents 94 percent of all species trapped. The average annual harvest of wild furbearers in the 8 year period from 1973 to 1980 was 104,100 pelts. Annual harvests ranged from 156,100 pelts in 1973 to 76,100 pelts in 1980. The target of 93,000 pelts annually has not been exceeded since 1976. Although the target may be overcome with improved access and management of existing habitat, particularly wetlands, further study is required.

4. STRATEGY

To achieve the wildlife objectives and targets in Chatham District, the ministry plans to:

- protect, conserve and manage all wildlife species (both non-game and game) on public and private lands, and ensure the perpetuation of diverse high quality habitats, particularly those shown in Figure 8;
- identify endangered, threatened or rare species;
- identify significant populations of wildlife species (both non-game and game) and protect or manage these populations if the best available scientific, social and economic data indicate that such action is necessary to achieve the above objectives and targets;
- encourage the maintenance or development of access to private lands;
- maintain ministry access and encourage the retention of municipal access to lands important for wildlife uses;
- encourage the consideration of all wetland values (particularly wildlife) in municipal planning;
- manage muskrat as the principle furbearer species;
- maintain a short, controlled shotgun season for deer in Lambton County and the eastern half of Kent County in conjunction with the present extended archery season throughout Essex, Kent and Lambton Counties; and
- manage resources within deer concentration areas to meet the needs of wintering deer, including supplementary feeding, browse cutting, trail packing and predator control. (Vegetation in deer concentration areas will be managed in accordance with approved deer yard and park management plans).

5. INTEGRATION

Wildlife management activities will consider the objectives of other ministry programs as outlined in Table 11, Part V and in the Application section, Part VI, of this report.

In particular, wildlife management in provincial parks will conform to park master plans and provincial parks planning and management policies.

F: provincial parks

1. OBJECTIVES

The objectives of the provincial parks system in southern Ontario are:

Protection

- to protect provincially significant elements of the natural and cultural landscape of Ontario;

Heritage Appreciation

- to provide opportunities for exploration and appreciation of the outdoor natural and cultural heritage of Ontario;

Recreation

- to provide provincial park outdoor recreation opportunities ranging from high intensity day use to low intensity wilderness experiences; and

Tourism

- to provide Ontario's residents and out-of-province visitors with opportunities to discover and experience the distinctive regions of the province.

2. TARGETS

The targets for the provincial parks system in Chatham District are:

Protection

- Earth Science to protect provincially significant, representative and special earth science features in Chatham District which contribute to the representation of the 35 geological environments of southern Ontario;
- Life Science to protect provincially significant life science features in Chatham District which contribute to the representation of each vegetative site type in the 26 site districts in southern Ontario; and
- Historical Resources to protect provincially significant landscape-related prehistorical and historical resources which contribute to representation of the 14 themes of southern Ontario's history;

Heritage Appreciation

- to provide opportunities for exploration and appreciation of the outdoor natural and cultural heritage of Chatham District; and

Recreation and Tourism

- to provide annually, by the year 2000, the following recreation opportunities for residents and visitors to provincial parks in Chatham District:

Day Use	2,296,400 swimming opportunities
	1,987,400 picnicking opportunities
Extended Use	665,200 camping opportunities

3. DISCUSSION

a. Protection

In Chatham District, a review of all known earth or life science areas of natural and scientific interest has been conducted to determine which are the most significant features relative to the protection targets. A review of historical resources has not been completed.

(i) Areas of natural and scientific interest

These are areas of land and water containing natural landscapes or features which have been identified as having values related to protection, natural heritage appreciation, scientific study or education.

Areas of natural and scientific interest may vary in level of significance. The most significant may contribute to the achievement of the ministry's protection objective.

Where areas of natural and scientific interest occur in public lands managed by the ministry, it will ensure that the land uses and activities which occur provide for the protection of identified values.

On private lands, the ministry will, through co-operation with others, attempt to ensure that landowners are aware of significant features on their properties and seek the owner's co-operation in protecting such features. The identification of areas of natural and scientific interest on private land does not indicate an intent of the ministry to acquire this land or to restrain or prevent any private use of land.

Areas of natural and scientific interest encourage the protection of additional areas not regulated

as provincial parks and provide a focus for both the public and private sectors to contribute to the protection of Ontario's natural heritage.

(ii) Significant earth and life science features
The features listed in Tables 8 and 9 are the earth and life science features in Chatham District which can best contribute to representation of the geological environments and vegetative site types of southern Ontario.

Twelve earth science, and 22 life science features have been identified. Two of the life science features are shared with Aylmer District. Of the total 34 features, 11 are located within existing provincial parks while three are within two proposed nature reserve class provincial parks. Five are located on federal or conservation authority lands, and the remaining 15 are associated with land which is partially or entirely under private ownership.

Those that occur on Crown land will generally be protected either within existing nature reserves, nature reserve zones within existing parks, or by candidate parks to be approved as nature reserves —as are Lighthouse Point and Fish Point on Pelee Island.

Conservation authorities will be consulted, and encouraged to recognize within watershed and area master plans, those sites that occur on authority lands.

The total area of significant earth and life science features on private land is substantial. Obviously, the purchase by the Crown of these areas would be neither practical nor acceptable. However, in most cases, it is not necessary for these areas to be devoted exclusively to protection and heritage appreciation within the provincial parks system to meet provincial park objectives. Therefore, in Chatham District, strategies which will encourage the protection of these sites without undue infringement on existing land uses and property rights will be foremost. It is also expected that the list of significant earth and life science features, and the extent of the areas delineated

TABLE 8 SIGNIFICANT EARTH SCIENCE FEATURES

LOCATION	EARTH SCIENCE FEATURE	CURRENT ADMINISTRATIVE STATUS
A. CROWN LAND		
Fish Point	sand spit formation and associated offshore shoals	Candidate Nature Reserve Park
Rondeau Provincial Park	a large cuspate barrier with series of sand ridges separated by wet swales	Proposed Nature Reserve Zone (in an existing park)
Ipperwash Provincial Park (2 features)	the type section for the Ipperwash limestone and a typical coastal dune sequence. (Also known as the Stoney Point Section)	Proposed Nature Reserve Zone (in an existing park)
Pinery Provincial Park (2 features)	a complex set of Great Lakes shoreline sand dunes	Proposed Nature Reserve Zone (in an existing park)
B. CONSERVATION AUTHORITY LAND		
Rock Glen	bedrock exposures rich in Paleozoic fossils	Ausable-Bayfield Conservation Authority
C. PRIVATE LAND		
Kettle Point	only southern Ontario exposure of Upper Devonian Kettle Point shales—large limestone concretions occur in these shales	Indian Reserve
Thedford Brickyard	an extremely fossiliferous Middle Devonian bedrock exposure	Private
Harrow Site Eskers	probably the oldest esker found in Ontario. Their relationship to known glacial earth science history is not yet fully understood	Private
Brunner Mond Quarry	a dolomite limestone stratigraphic feature	Private
Allied Chemical Quarry	a Middle Devonian fossiliferous limestone exposure	Private

CHATHAM DISTRICT

PROVINCIAL PARKS PROGRAM

Figure 9

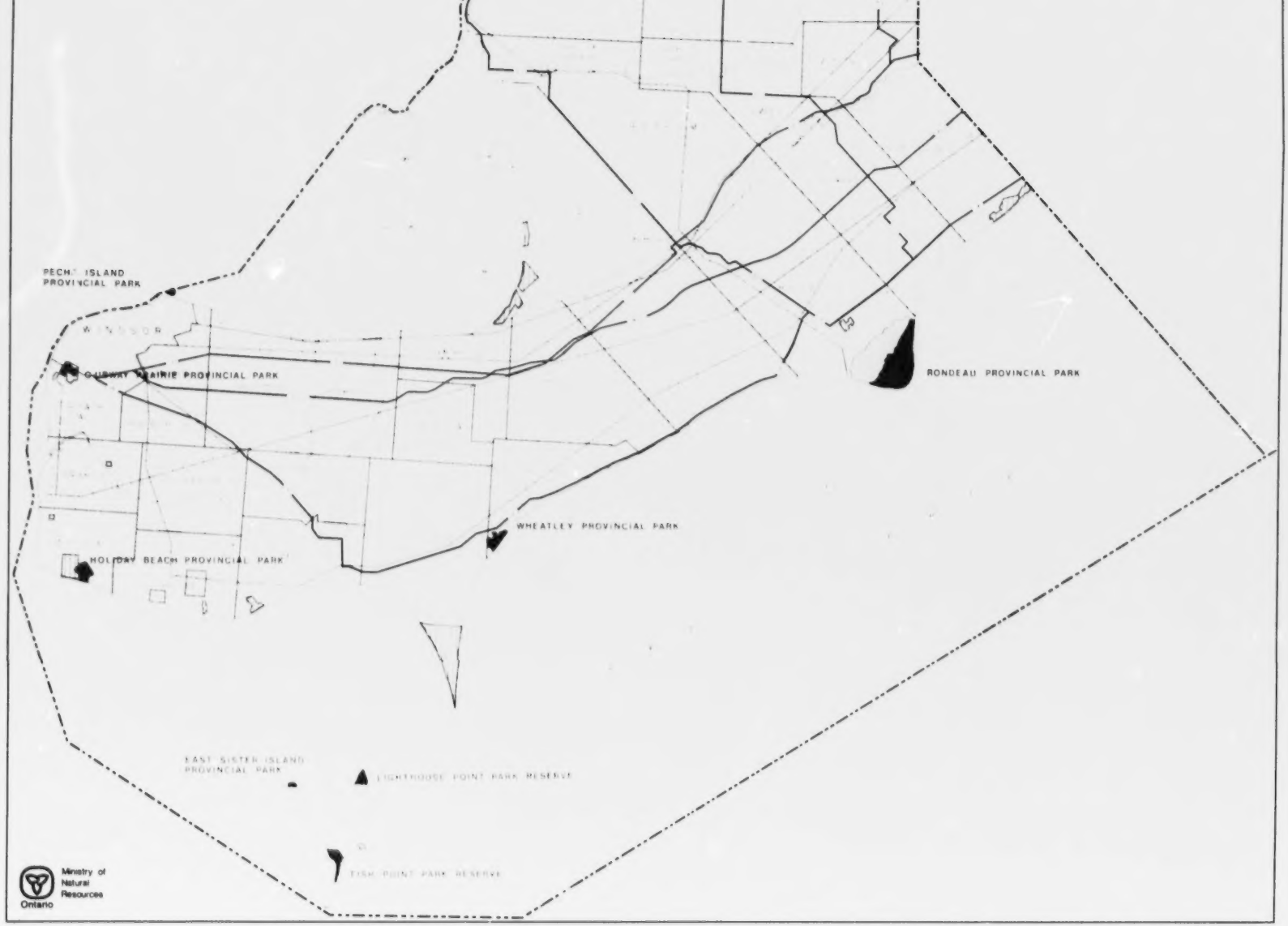

PECHE ISLAND
PROVINCIAL PARK
WINDSOR
OJIBWAY PRAIRIE PROVINCIAL PARK
RONDEAU PROVINCIAL PARK
WHEATLEY PROVINCIAL PARK
HOLIDAY BEACH PROVINCIAL PARK
EAST SISTER ISLAND
PROVINCIAL PARK
LIGHTHOUSE POINT PARK RESERVE
FISH POINT PARK RESERVE
Ministry of
Natural
Resources
Ontario

TABLE 9 SIGNIFICANT LIFE SCIENCE FEATURES

LOCATION	VEGETATION-LANDFORM FEATURES REPRESENTED	CURRENT ADMINISTRATIVE STATUS
A. CROWN LAND		
Ojibway Prairie Provincial Park	tall grass prairie ecosystem	Nature Reserve Class Provincial Park
East Sister Island Provincial Park	ecology of the Erie Island Archipelago and unique opportunities to study the principles of island biogeography of organisms approaching their northern range limit	Nature Reserve Class Provincial Park
Fish Point Park Reserve	ecology of the Erie Island Archipelago and unique opportunities to study the principles of island biogeography of organisms approaching their northern range limit	Candidate Nature Reserve Park
Lighthouse Point Park Reserve	ecology of the Erie Island Archipelago and unique opportunities to study the principles of island biogeography of organisms approaching their northern range limit	Candidate Nature Reserve Park
Rondeau Provincial Park	one of three major Lake Erie sand spits and largest remaining tract of forest in the Carolinian Forest Region of Canada	Proposed Nature Reserve Zone (in an existing park)
Wheatley Provincial Park	a deciduous woods of Carolinian affinity containing a high occurrence of Black Gumtrees and 29 other rare plant species	Proposed Nature Reserve Zone (in an existing park)
Pinery Provincial Park	a series of parallel sand dunes, dry and wet meadows, and areas of lush pine-oak forest	Proposed Nature Reserve Zone (in an existing park)
Ipperwash Provincial Park	interdunal wet meadows in which many rare plants of prairie affinities occur	Proposed Nature Reserve Zone (in an existing park)
B. FEDERAL/ CONSERVATION AUTHORITY LAND		
Lake St. Clair Marshes	shoreline marshes on sand plain (cattail marsh, wet meadows, reed marsh)	National Wildlife Area, in part (Canadian Wildlife Service)
Point Pelee	shoreline marsh on peat and muck (lowland woods, treed swamp, cattail marsh, old fields)	National Park
Cedar Creek	creek system on bevelled till plain (upland woods, lowland woods, marsh, swamp)	Essex Region Conservation Authority Property
Ausable River	river valleys with adjoining till moraine and sand plain uplands	Ausable-Bayfield Conservation Authority Property (small area only)
C. PRIVATE LAND (entirely or partially)		
Sinclair's Bush	upland woods (creek, pond/marsh)	Private
Big Creek Marsh	shoreline marsh and creek system on peat and muck (lowland woods, marsh)	Private
Stone Road Prairie	prairie on limestone plain	Private
Plum Creek Upland Woodlots	upland/lowland (oak-hickory) forests on bevelled, till plain	Private Private
Bear Creek Floodplain Tableland Woods	river valley bottomland habitats with adjoining oak-hickory clay plain upland	Private
Port Franks Wetlands and Forested Dunes	coastal sand dune ridge swale and wetland assemblage with wooded dunes sequence	Partly owned by Lambton County
Elgin and Kent County Shorelines	steep shoreline bluffs with natural remaining habitats of wet woods, shrub thicket and old fields	Partly owned by Township of Orford

TABLE 9 SIGNIFICANT LIFE SCIENCE FEATURES (continued)

LOCATION	VEGETATION-LANDFORM FEATURES REPRESENTED	CURRENT ADMINISTRATIVE STATUS
Middle Island	lowlands consisting of hackberry forest and blue ash savanna	Private
Oxley Poison Sumac Swamp	swamp forest and sedge meadow	Private
Prairie Remnants (adjacent to Ojibway Prairie Provincial Park)	tall grass prairie ecosystem	Private

as being required to protect the earth and life science features in question, will be refined over time.

(iii) Historical resources In Chatham District, eight of the 14 historical themes are represented in part within existing provincial parks. Historical themes are groupings of historical activities of similar natures and times. They are usually represented by sites where specific relics are found or where historical events occurred. These include archaeological sites in Pinery, and sites of known historical activity in both Pinery and Rondeau Provincial Parks. The national historic site of Fort Malden at Amherstburg also contributes to the Chatham District protection objective. Further inventory work is required to identify the historical resources that can best contribute to the representation of those 14 themes of southern Ontario's history that are present in Chatham District.

b. Heritage Appreciation

The target for heritage appreciation is achieved by providing opportunities for unstructured exploration and appreciation of features of Ontario's natural and cultural landscapes, and its earth and life science features. Such opportunities are best provided in large areas wherein representative samples of Ontario's variety of natural and cultural landscapes may be found.

Presently, there are seven provincial parks in Chatham District that contribute to this target. This occurs through various degrees of visitor services programming which offer a variety of communications, interpretation, recreation and outdoor education messages, activities and facilities relating to the features within each park.

The heritage appreciation opportunities presently provided by the ministry in Chatham District are considered to adequately provide for the exploration and appreciation of the natural and cultural landscape of this area of Ontario. In addition, other agencies, conservation authority and private parks, municipal and other museums, and areas of natural and scientific interest complement the ministry's heritage appreciation objective and target.

c. Recreation and Tourism

The recreation and tourism targets represent only the ministry's share of the overall anticipated demand. Municipalities, conservation authorities, other agencies and the private sector are assumed to at least maintain their present proportion of the total supply.

Camping, picnicking and swimming have been selected as indicator types. Other activities such as trails will be developed in association with them.

To achieve the recreation and tourism targets, 1,433,700 additional picnicking opportunities and 93,200 additional camping opportunities must be provided by the year 2000. No additional swimming opportunities are required as existing opportunities exceed anticipated demand by 32 percent.

As shown in Table 10, existing parks have the potential to provide only a portion of anticipated demand. Specifically, an additional 1,187,700 picnicking opportunities or 83 percent of anticipated demand may be provided from 4,828 more picnic tables at Rondeau, Pinery and Ipperwash Provincial Parks, and 93,200 additional camping opportunities or 37 percent of projected demand from 250 potential campsites at Rondeau, and 150 new campsites at Holiday Beach.

A re-evaluation of these targets based on 1981 population projections indicates a reduced need for camping and swimming opportunities. Some 185 fewer campsites and some 90 additional metres of beach surplus are anticipated. These revised values are a reflection of reduced population trends of centres which are about a two hour travel radius from provincial parks in Chatham District. On the other hand, to reflect increased growth at centres near Pinery and Ipperwash, an additional need for 134 picnic tables has been identified. Consequently, depending

TABLE 10 RECREATION SUMMARY

	DAY USE OPPORTUNITIES				CAMPING	
	TOTAL OPPORTUNITIES					
	picnicking/swimming		# of picnic tables	# of metres of beach	# opportunities	# campsites
Total Target (2000)	1,987,400	2,296,400	8,079	11,315	665,200	2,855
Existing Opportunities (1982)	553,700	3,372,800	2,251	16,615	415,000	1,781
New Opportunities Required by 2000	1,433,700	—	5,828	—	250,200	1,074
Available Potentials						
— in existing parks	1,187,700	—	4,828 (Rondeau, Pinery, Ipperwash)	—	93,200	400 (Rondeau, Holiday Beach)
— in proposed nature reserve parks	—	—	—	—	—	—
TOTAL POTENTIAL	1,187,700	—	4,828	—	93,200	400
Target variances	−246,000	+1,075,900	−1,000	+5,300	157,000	674

on the facility, parks of adjacent districts may have to offset Chatham District's shortfalls to a greater or lesser degree.

d. Provincial Parks

In Chatham District, the eight existing provincial parks contribute to various provincial parks targets:

East Sister Island
- contributes to achieving the targets for:
  - protection of a significant life science feature
  - heritage appreciation

Holiday Beach
- contributes to achieving the targets for:
  - heritage appreciation
  - recreation and tourism

Ipperwash
- contributes to achieving the targets for:
  - protection of significant earth and life science features
  - heritage appreciation
  - recreation and tourism

Ojibway Prairie
- contributes to achieving the targets for:
  - protection of a significant life science feature
  - heritage appreciation

Pinery
- contributes to achieving all of the targets

Rondeau
- contributes to achieving all of the targets

Wheatley
- contributes to achieving the targets for:
  - protection of a significant life science feature
  - heritage appreciation
  - recreation and tourism

Peche Island
- contributes to achieving the recreaton target.

No one park can be all things to all people. Accordingly, to provide a diversity of heritage appreciation and recreation experiences, different park environments are required. Distinctive experiences and park environments are provided in Ontario through six classes of parks: waterway, wilderness, nature reserve, historical, natural environment and recreation parks. It follows therefore that these park classes are a primary means through which park objectives and targets are implemented within Ontario's provincial park system.

Additionally, as noted, objectives and targets are achieved through special means such as landowner agreements.

4. STRATEGY

a. Protection
- The owners of significant earth and life science features will be advised of the extent and significance of the earth or life science features on their properties.
- The ministry plans to work with owners of significant earth and life science features and with municipalities to encourage and assist them in protecting and caring for the features on their properties.
- The ministry plans to encourage municipalities to designate significant earth and life science

features as areas of environmental significance in official plans.

- Where it is felt necessary by the ministry, a more detailed study of a feature may be conducted where it is anticipated that protection of the feature might be a land use or land planning concern.
- For areas of natural and scientific interest, the ministry will encourage investigations to identify and study them, and will foster an exchange of information about areas of natural and scientific interest with municipalities and conservation authorities, and upon request, with interested individuals or parties.

b. Heritage Appreciation

- The ministry will continue to provide heritage appreciation opportunities through visitor services programming consisting of communications, interpretation, recreation and outdoor education messages, activities and facilities at Pinery and Rondeau Provincial Parks. At Holiday Beach, Ojibway Prairie, Peche Island, Ipperwash and Wheatley Provincial Parks, this programming will consist of self-use communications and interpretation facilities and messages only. Special events or activities of an interpretative nature may be provided from time to time in these parks. Programming at East Sister Island will be limited to resource management communications messages for the foreseeable future since access to this park is difficult.
- The ministry plans to encourage public appreciation of the significant earth and life science features by:
  - developing interpretive material on the district's system of significant earth and life science features, which will include information on the ownership of and public access rights to each feature so as to discourage unwanted intrusions on private property by those interested in the earth and life science features of the district;
  - where appropriate, attempting to secure access for public appreciation of specific features in cooperation with landowners;
  - where appropriate, erecting plaques or developing other facilities for interpretation of specific features in cooperation with landowners; and
  - where appropriate, encouraging scientific and educational uses of specific features in cooperation with landowners.

c. Recreation and Tourism

- Holiday Beach, Ipperwash, Pinery, Rondeau, Wheatley and Peche Island Provincial Parks will continue to contribute to the achievement and provision of recreational opportunities.

d. Provincial Parks

- The operation of the eight existing provincial parks will continue within the following park classes:
  - as nature reserve class parks:
    East Sister Island
    Ojibway Prairie
  - as natural environment parks:
    Pinery
    Rondeau
  - as recreation parks:
    Holiday Beach
    Ipperwash
    Wheatley
    Peche Island
- Fish Point and Lighthouse Point, both currently park reserves on Pelee Island, may be placed in regulation as nature reserve class provincial parks.
- The protection of significant earth and life science features may be achieved through means other than by creating new nature reserve class parks.
- The ministry will examine alternatives to achieve the recreational targets other than through the development of a new recreation park.

5. INTEGRATION

Park management activities will consider the objectives of other ministry programs as outlined in Table 11, Part V, and in the Application section, Part VI, of this report, particularly when developing master plans and guidelines for the protection of significant earth and life science features.

G: general recreation

1. OBJECTIVE

The ministry's recreation management efforts are directed primarily to hunting, fishing and provincial parks. There are a number of other activities which the ministry carries out for which no objectives have been developed.

Tentative objectives for general recreation in southern Ontario are:

- to provide and to encourage a wide variety of outdoor recreation opportunities ranging from day use to backcountry experiences;
- to identify, select and protect provincially significant natural and cultural resources; and
- to provide an economic contribution through tourism.

2. TARGET

No targets have been developed for outdoor recreation on Crown and other lands outside provincial parks, other than for hunting and fishing.

3. DISCUSSION

The Great Lakes' shoreline and inland lakes and rivers in Chatham District are important recreation and tourism resources. Recreation and tourism provide an important, although in many cases seasonal, contribution to the local economy.

It is part of the ministry's objective to provide on Crown land and encourage on private land, a continuous contribution to the economy from tourism and its related industries.

The ministry can directly contribute to the achievement of general recreation objectives by providing trails and other recreation facilities on agreement forest lands, and wildlife management areas.

Numerous groups and agencies also contribute to the achievement of these objectives by developing trails and other recreational facilities, and protecting significant natural and cultural resources.

4. STRATEGY

The ministry plans to:

- assist groups and agencies through the granting of permission to develop recreational trails on appropriate public lands;
- maintain contact with local trail clubs, and provide advice on the development and management of facilities by these and other suppliers of general recreation such as conservation authorities, municipalities and the private sector;
- support and participate with individuals and other agencies toward the development of a co-ordinated recreation policy within the district; and
- support and advocate the provision of access to the Great Lakes where the demand justifies during the review of development proposals along the district's lakeshore.

5. INTEGRATION

The general recreation program will consider and contribute to the objectives of other ministry programs as outlined in Table 11, Part V, and in the Application section, Part VI, particularly the fisheries and wildlife programs when developing access points.

H: land administration

1. OBJECTIVE

The objective is to facilitate the orderly development and conservation of Ontario's land and water resources.

2. TARGET

Specific lands administration targets have not been developed.

3. STRATEGY

To achieve the objective, the ministry plans to:

- maintain the Crown's proprietary interest in land;
- dispose of Crown land considering the availability of suitable private land, the potential competition with the sale of private land and potential impact of adjacent use. Disposition of Crown land will take place in accordance with the policies and designations of land use in official plans, where they exist; and
- assist in the maintenance of a geographical referencing system to contribute to orderly development on all lands.

The natural resources of Chatham District which provide recreation, tourism and industrial benefits are well interspersed. In many cases, the same resource land base is required to provide a variety of benefits.

The ministry, then, will not normally separate or assign discrete areas of land for each program. Rather, multiple use management and program integration will be emphasized. Therefore, the ministry in Chatham District will generally seek to achieve the objectives of a number of programs in the same general area. Every effort will be made to ensure that each ministry program contributes to, or accommodates the objectives of other programs.

Guidelines for achieving the totality of objectives while ensuring program integration are outlined in Figure 10, General Resource Areas (see backpocket), and Tables 11 and 12.

Figure 10 gives an overview of where ministry effort will be expended. Table 11 describes how actions taken as part of each specific ministry program will contribute to or complement other programs. To provide more specific direction for the management and use of land and resources, both management and operational guidelines are also included. Table 12 shows how ministry-owned lands set aside for natural resource management purposes will, where appropriate, serve to achieve more than one program objective, simultaneously or sequentially.

TABLE 11: INTEGRATING MINISTRY PROGRAMS

By whom / For whom	Forestry	Mineral Aggregate	Minerals and Fossil Fuels	Fisheries	Wildlife	Provincial Parks	General Recreation	Land Administration
Forestry		• direct forest management investments away from high potential aggregate deposits • provide technical advice and assistance for tree planting when rehabilitating pits and quarries	• direct forest management investments away from major commercial mineral deposits	• encourage planting to protect or enhance stream habitat • encourage harvesting techniques which protect stream habitat	• incorporate forest management prescriptions to enhance wildlife habitat • permit hunting and trapping on Crown forests	• conform to park master plans and management plans • modify or forego forest management to protect significant earth and life science features, if appropriate	• permit low intensity recreation on Crown forests (trails) and agreement forests	• circulate all applications for *Woodlands Improvement Act* agreements to planning program to ensure concerns of other programs are met
Mineral Aggregate	• encourage tree planting as part of site rehabilitation • encourage removal of valuable timber and fuelwood from licenced areas before extraction • prohibit aggregate extraction in agreement and Crown forests • consider forest resources when reviewing wayside pit and licence applications			• consider fisheries resources when reviewing wayside pit and licence applications • encourage minimum disturbance adjacent to streams and lakes	• prohibit aggregate extraction from wildlife management areas • consider wildlife resources when reviewing wayside pit and licence applications	• prohibit aggregate extraction in provincial parks, and make every effort to ensure that aggregate extraction activities have no detrimental effect on the quality and integrity of significant earth and life science features		
Minerals and Fossil Fuels				• encourage minimum disturbance adjacent to streams and lakes	• extraction and development may not occur on/or adjacent to habitat of rare and endangered species	• conform to park master plans and management plans • extraction and development may not be appropriate adjacent to significant earth and life science features		
Fisheries			• encourage co-operation of the commercial fishing industry in facilitating petroleum exploration		• consider fisheries resources when developing wildlife management plans for Crown lands and when assisting other agencies and private landowners in planning wildlife management projects (e.g. regulated marshes)			
Wildlife	• monitor and manage deer herds within the capacity of the range to minimize overbrowsing of hardwood saplings • provide technical advice and assistance in the planning and management of wildlife on Crown forests					• conform to park master plans and management plans • modify or forego wildlife management to protect significant earth and life science features, if appropriate	• consider low intensity recreation on wildlife management areas (trails)	
Provincial Parks	• consider forest resources during the development and review of park master plans and other management plans (significant earth and life science features)	• consider mineral aggregate resources during the development and review of management plans for significant earth and life science features	• consider mineral and fossil fuel resources during the development and review of park master plans and other management plans (significant earth and life science features)	• consider fish resources during development and review of park master plans and other management plans (significant earth and life science features)	• consider wildlife resources during the development and review of park master plans and other management plans (significant earth and life science features)			
General Recreation	• provide technical advice and assistance in the planning and operation of recreation facilities on agreement and Crown forests			• encourage new access points to water where fishing pressure is low • fisheries program will be consulted prior to development for other purposes	• encourage new access points to water where hunting (waterfowl) pressure is low • wildlife program will be consulted prior to development for other purposes • provide technical advice and assistance in the planning and operation of recreational facilities on wildlife management areas			
Land Administration	• review development proposals for impact on forest resources	• ensure incompatible land uses are not designated in municipal plans on/or adjacent to required aggregate deposits • ensure wayside pits are permitted to open without a technical plan amendment	• encourage exploration in municipal plans	• review drainage and development proposals for impact on fish habitat	• acquire significant areas of rare or endangered species habitat and/or support the acquisition by other public agencies	• review development proposals for impact on provincial parks and significant earth and life science features	• support and advocate the provision of access to the Great Lakes where justified by demand	

TABLE 12 INTEGRATED RESOURCE MANAGEMENT OF CROWN LANDS

AREA	SIZE[1] Ha	SIZE[1] Acres	PRIMARY BENEFITS[2]	OTHER BENEFITS[2]
Holiday Beach Prov. Park	83	205	recreation park	waterfowl hunting, sport fishing
Wheatley Prov. Park	215	531	recreation park	sport fishing
Peche Island Prov. Park	45	111	natural environment park	sport fishing
Ipperwash Prov. Park	97	240	recreation park	
Rondeau Prov. Park	1,862	4,600	natural environment park	sport fishing, waterfowl hunting muskrat trapping
Pinery Prov. Park	2,338	5,775	natural environment park	sport fishing
Ojibway Prairie Nature Reserve	92	228	nature reserve	salt production (underground access to resource)
East Sister Island Nature Reserve	15	37	nature reserve	
Fish Point Park Reserve	111	274	candidate nature reserve park	waterfowl hunting and sport fishing offshore, pheasant hunting
Lighthouse Point Park Reserve	71	175	candidate nature reserve park	waterfowl hunting and sport fishing offshore, pheasant hunting
Crown forest	35	86	forest production	extensive recreation
Canard River Access	11	26	waterfowl hunting	sport fishing

(1) dry land base
(2) only present benefits are listed. As master plans are developed for park properties significant resource benefits of all programs will be considered.

This chapter outlines the actions which must be taken to carry out the *Land Use Guidelines*. Within section 1, general means for promoting and ensuring achievement of ministry objectives and targets are discussed. Specific actions are outlined by program in section 2.

1. GENERAL MEANS

Within Chatham District, one percent of the total land area is under ministry ownership. If the ministry limits itself to efforts on the relatively small areas of land it owns or manages, it will be ineffective in achieving its desired objectives and targets.

The *Land Use Guidelines* have no legal status. The control of land use on private land in municipalities is exercised by those municipalities under the authority of the *Planning Act* which is administered by the Ministry of Municipal Affairs and Housing.

The ministry recognizes that private landowners, other government agencies, municipalities, conservation authorities and interest groups are key partners in any effort to achieve effective and integrated resource management. The Ministry of Natural Resources will continue to work with these groups, especially with municipalities through the ministry's plan input and review program to consider resource values in local planning documents.

a. Application Through Ministry Programs
The general direction and objectives outlined in this report will be achieved internally by the following means:

- the preparation and approval of resource management plans; and
- through specific conditions which are incorporated in permits, licences, leases, easements, etcetera, issued under the authority of various provincial Acts, for example the *Public Lands Act*, the *Mining Act*, the *Crown Timber Act*, etcetera.

b. Working with Municipalities
The *Chatham District Land Use Guidelines* may serve as one of the sources of information for ministry involvement in municipal planning.

The ministry will consult with municipal officials and private landowners where the *Land Use Guidelines* indicate the ministry wishes to influence particular land uses on private land in organized municipalities. At this time the needs of other land users will be taken into consideration.

There will be occasions when the ministry feels that certain land uses or proposed developments on private land, while in conformity with municipal planning documents, will have a negative impact on ministry programs or interests. In such situations the ministry will attempt to resolve the situation through discussions with the proponent, the municipality and the Ministry of Municipal Affairs and Housing.

In municipalities containing Crown land there may be situations where municipal planning documents do not permit land uses on Crown land indicated as acceptable in the *Land Use Guidelines*. Where this happens, and it appears that a possible land use conflict might arise, the ministry will undertake negotiations with the municipality to try and resolve the situation.

Where the ministry receives a request for the disposition of Crown resources for a use which is in accordance with the *Land Use Guidelines*, but the land use is not recognized on Crown land in the municipality's official plan or zoning by-law, the ministry will first request input from the municipality.

c. Working with Other Agencies
The implementation of many of the guidelines outlined will require co-ordination with other provincial and federal agencies, since there are many situations where the objectives of different agencies can be either competing or complementary. These include provincial ministries such as

Agriculture and Food, Environment, Municipal Affairs and Housing, and Tourism and Recreation; and federal departments or groups such as Parks Canada and the Canadian Wildlife Service; and special agencies, such as conservation authorities, Ontario Hydro and the St. Clair Parkway Commission.

(i) Conservation Authorities Conservation authorities are independent corporate agencies set up jointly under the *Conservation Authorities Act* by the local municipalities and the Province of Ontario to develop and implement water related land management programs.

The *Conservation Authorities Act* is administered on behalf of the Province of Ontario by the Minister of Natural Resources.

Conservation authorities are presently completing watershed plans that will outline the long term direction of all authority programs. The primary program of conservation authorities in flood and erosion control complements the ministry's programs. Other conservation authority programs, particularly those in forestry, fish, wildlife and recreation supplement the efforts of the ministry. Both agencies are making every effort to reduce duplication and overlap in their planning and to ensure that the delivery of resource management programs achieves the greatest possible benefits for the people of Ontario.

(ii) Ontario Ministry of Agriculture and Food
The ministry recognizes the importance of agriculture. On private land, the ministry normally will not encourage or support activities or land uses which result in long term loss of the amount of land in agricultural production. The ministry will encourage forestry, recreation and other compatible uses on high capability land presently not in agricultural production. Where uses such as mineral aggregate extraction occur, rehabilitation will be required to ensure that agriculture remains a long term option.

Generally, on public land the ministry will maintain high capability agricultural land, or other sites as identified by the Ministry of Agriculture and Food, in uses which do not preclude the long term use of these lands for agriculture, should agricultural use become necessary or desirable.

(iii) Ontario Ministry of the Environment
The ministry will co-operate with the Ministry of the Environment in monitoring impacts on the environment related to natural resources.

The two ministries have jointly developed guidelines, in this regard, related to water quality and fisheries issues.

The Ministry of Natural Resources has responsibility for identifying the fisheries values of water bodies with respect to meeting the Ontario Government's fisheries mandate. This identification is based on the *Land Use Guidelines* and, as developed, local fisheries management plans. The Ministry of the Environment is responsible for determining existing water quality and predicting the effects of proposed development on water quality. The latter information is used by the two ministries to assess potential effects on fisheries values.

d. Working with Special Interest Groups
There is very significant potential for other groups to assist the ministry in implementation of this report. Five current examples of such co-operation are the Ontario Trapper's Association's role in providing trapper education, the Ontario Federation of Anglers and Hunters' role in hunter safety training, the Nature Conservancy of Canada's role in assisting in the acquisition of land, Ducks Unlimited's role in wildlife and water management, and the Bluewater Anglers' in culturing rainbow trout for stocking in public waters.

e. Working with Individual Land Owners
The ministry in Chatham District must rely primarily on private land to achieve targets.

As resource demands increase, there will be a need for a greater emphasis on assisting private landowners in the management of resources. There are some useful models in this area, such as the *Woodlands Improvement Act*, but such mechanisms will need to be improved and expanded. As an example, the protection of significant earth and life science features will require the development of innovative agreements which will encourage landowners to participate in a protection program.

As part of the emphasis on private lands, the ministry must ensure that landowners can easily and effectively obtain information on how they can contribute to resource management.

2. SPECIFIC MEANS

a. Forestry
To meet the forestry target and to assist in meeting other program targets, the ministry plans to:

(i) Internally
- monitor the loss of forest cover to help ensure that it does not fall below the area needed for target achievement; and
- continue to implement and expand the private land forestry program by:

- increasing the percentage of woodlots managed under the *Woodlands Improvement Act;*
- expanding the commercial timber marking and marketing program for private woodlot owners to increase revenues from woodlots, to improve the quality of harvesting, and to help ensure a continued and higher quality wood supply to the wood industry;
- expanding the fuelwood marking and marketing program available to private landowners to increase the use of wood as a renewable energy source, and to improve the quality and productivity of existing woodlots;
- continuing to provide technical expertise to landowners through the forestry extension program and through public meetings; and
- providing tree seedlings to rural landowners where windbreak protection of agricultural lands and buildings is inadequate;

(ii) Through co-operation with municipalities

- promote the maintenance and expansion of the agreement forest system whereby municipal lands are managed under the *Forestry Act* for forestry purposes; and
- provide assistance upon request to municipalities pertaining to the enactment and enforcement of by-laws regulating the destruction of trees and other related matters;

(iii) Through co-operation with conservation authorities

- promote the maintenance and expansion of the agreement forest system whereby authority lands are managed under the *Forestry Act* for forestry purposes; and
- contribute to the authority's water management objectives by encouraging and supporting tree planting on private lands, and woodlot retention; and

(iv) Through co-operation with the Ontario Ministry of Agriculture and Food, and the Ridgetown College of Agriculture and Technology

- promote soil and crop protection through the establishment of windbreaks and the maintenance of tree cover.

b. Mineral Aggregate

To meet the mineral aggregate target and to assist in meeting other program targets, the ministry plans to:

(i) Internally

- through plan input and review, maintain the potential of needed aggregate reserves and ensure that wayside pits are permitted without official plan and zoning by-law amendments; and
- circulate applications for licence under the *Pits and Quarries Control Act* and rehabilitation plans to fish and wildlife, forestry and planning programs prior to approval; and

(ii) Through co-operation with municipalities

- meet with all municipal and county councils to explain the economic significance of aggregate resources;
- provide surficial geological information on the location and extent of potential mineral aggregate deposits and the quality, type, tonnage and commercial value of these reserves as determined; and
- review and if necessary, seek to correct reported environmental concerns caused by extraction activities.

c. Minerals and Fossil Fuels

To meet the mineral and fossil fuel targets and to assist in meeting other program targets, the ministry plans to:

(i) Internally

- encourage an increase in exploratory and development drilling by:
  - continuously updating maps and volume estimates of remaining recoverable oil and gas reserves in the district; and
  - providing industry with annual reports, petroleum resources maps and data as requested;
- develop a public education program for municipalities, other government agencies, the mineral resource industry and the general public to provide mineral resources data and information;
- encourage an increase in natural gas production of oil consistent with sound engineering practices by encouraging:
  - secondary and tertiary recovery of oil;
  - assessment of oil shale resources;
  - deep drilling for petroleum; and
  - environmentally sound utilization of disposal capabilities of porous formations; and
- through plan input and review, promote:
  - the identification of oil and natural gas reserves and well locations and other mineral deposits;
  - policies which permit the exploration for and production of, natural gas, oil and other mineral resources; and
  - maintenance of areas with mineral potential; and

(ii) Through other agencies

- support the protection of existing and proposed Great Lake docking facilities, at Sarnia and Windsor, that are important for the transportation of minerals and fossil fuels.

d. Fisheries

To meet the fisheries targets, the ministry plans to:

(i) Internally

- administer the *Game and Fish Act*, the *Fisheries Act*, and their respective regulations to protect fish populations from over-exploitation;
- initiate stream and lake substrate studies to identify all critical sport fish spawning and nursery areas by the year 2000. Important locations for study will be the Thames River, Sydenham River, Lake St. Clair marshes and the western Lake Erie shoals;
- undertake new creel census surveys of the smelt fishery as well as new creel census surveys on St. Clair River and southern Lake Huron;
- continue to monitor the sport and commercial fish harvest to ensure that harvest does not exceed sustainable yield;
- continue to assess sport fishing participation, success rates and harvest in Rondeau Bay, western Lake Erie and lower Detroit River by the Lake Erie Fisheries Assessment Unit, and lower Thames River and Lake St. Clair by the Lake St. Clair Fisheries Assessment Unit;
- monitor the effectiveness of the present rainbow trout stocking program. Discontinue stocking those water bodies which prove to be the least successful fisheries;
- investigate further the potential impact of oil and gas exploration drilling and extraction upon commercial fishing in Lake Erie;
- prepare a district fisheries management plan;
- refine the annual allowable yield for bait fish. This includes improving the quality of annual reports from bait fishermen and dealers, since these reports are critical to analyzing resource use;
- prepare a bait fish management plan to determine the appropriateness of restricting entry to the industry and to reduce conflicts between competing licences;
- ensure that bait fish supplies are adequate to satisfy local markets by regulating the export of bait fish;
- carry out sport fisheries enforcement through the monitoring of the spring fish sanctuary on the lower Thames River and the summer fisheries on Lake St. Clair, the lower Detroit River, western Lake Erie and on Rondeau Bay; and
- through plan input and review:
  - advocate the protection of critical spawning and nursery areas by recommending appropriate protective policies and measures in plans and proposals of others;
  - minimize impacts on fish migration, spawning and nursery areas through review of drainage, dam and pond proposals and proposals to construct roads, bridges and marinas; and
  - encourage the provision of access and boat launching facilities, particularly for commercial bait fishing when reviewing lakeshore development proposals;

(ii) Through cooperation with other agencies

- investigate the appropriateness of removing restrictions upon access to important fishing areas such as federal parks, and the City of Windsor and St. Clair Parkway Commission properties;
- work to minimize impacts of certain land use practices on critical fish habitat, particularly with the Ministry of Agriculture and Food and soil conservation associations; and
- assist in initiating effective agricultural land management studies and pilot projects; and

(iii) Through co-operation with conservation authorities

- promote stream rehabilitation to improve fish habitat through erosion control projects and encouragement of good land use practices on private land;
- encourage and promote fisheries management and access to fishing opportunities on conservation authority properties; and
- protect fish habitat in streams by encouraging conservation authorities to include fisheries concerns and remedial measures in their review of drainage proposals.

e. Wildlife

To achieve the wildlife targets and to assist in meeting other program targets, the ministry plans to:

(i) Internally

- provide enforcement of the *Game and Fish Act*, the *Endangered Species Act*, and their respective regulations sufficient to maintain wildlife populations;
- acquire critical habitat areas where necessary and feasible;
- take specific control action where wildlife destroys domestic animals or where dogs and coyotes harass deer in yarding areas;
- prepare management plans for all important wildlife habitats including:
  - existing waterfowl management units to ensure continued, high quality hunting opportunities; and
  - wildlife in provincial parks;
- monitor populations of:
  - deer, to ensure that the carrying capacity is not exceeded and to reduce browse damage to commercial hardwood and Carolinian saplings;
  - small game, through hunter surveys. If

critical declines in the harvest of species are reported, appropriate changes in seasons and times will be recommended; and
  - endangered species;
- conduct biological investigations of deer, small game, waterfowl, furbearer, reptile and amphibian-related problems;
- implement a district fur management plan which includes managing trapper numbers, restricting trapping areas, requiring written landowner permission and mandatory trapper education and enforcing seasons and humane trapping practices;
- encourage during master planning:
  - the investigation of suitable areas for waterfowl, small game and deer hunting opportunities in recreation class provincial parks; and
  - the consideration of fur management for all Crown lands;
- promote wildlife values through plan input and review; and
- review appropriate controls to ensure adequate hunter safety;

(ii) Through co-operation with such agencies as conservation authorities, St. Clair Parkway Commission, Canadian Wildlife Service and Lambton Wildlife Incorporated

- work co-operatively to achieve the protection of all wildlife resources (both non-game and game);
- encourage greater non-government participation in the identification and management of wildlife, in particular endangered, threatened or rare species;
- administer jointly (with Royal Canadian Mounted Police and Canadian Wildlife Service) the *Migratory Birds Convention Act* and Regulations to protect waterfowl populations from over-exploitation;
- promote optimum production and harvest of furbearers on all suitable public lands;
- support the acquisition of wetlands and jointly survey and priorize all 14,724 hectares of wetlands in Essex, Kent and Lambton Counties;
- promote deer, small game and waterfowl hunting on all suitable public properties;
- inform landowners of the benefits of marshes such as water table maintenance, shoreline protection, waterfowl nesting and stage areas. Assistance in this regard will also be sought from the Ontario Ministry of Agriculture and Food, and Ducks Unlimited;
- develop guidelines for waterfowl control structures to protect private wetlands, particularly in conjunction with Ducks Unlimited; and
- encourage wildlife plantings on private lands; and

(iii) Through co-operation with private landowners

- work co-operatively to achieve the protection of all wildlife resources (both non-game and game);
- provide extension services which promote an understanding of the value of wildlife resources (both non-game and game), and non-consumptive uses, and which enhance social benefits and tourism;
- provide habitat management consulting services;
- enter into agreements with property owners to ensure wildlife habitat on private land is protected and/or improved; and
- expand the wildlife self-help and agreement programs on private land to create and/or maintain small game habitat, and to provide access to wildlife recreation benefits.

f. Provincial Parks

To meet the provincial parks systems targets and to assist in meeting other program targets, the ministry plans to:

(i) Internally

- develop approved master plans for existing provincial parks and nature reserves. Areas significant to all programs will be considered during master planning;

(ii) Through co-operation with conservation authorities

- encourage the recognition of significant earth and life science sites within watershed and area master plans;
- encourage the support of significant earth and life science sites during plan review; and
- encourage the development of recreation facilities to meet any apparent deficiencies in the supply of picnicking and camping opportunities; and

(iii) Through co-operation with landowners, municipalities and other agencies including the Ministry of Citizenship and Culture, with lands having significant earth and life science features

- encourage and assist in the protection and care of the features; and
- where appropriate, encourage public appreciation of specific features by:
  - attempting to secure access;
  - erecting plaques or developing other facilities for interpretation purposes; and
  - encouraging scientific and educational uses.

g. Land Administration

The program will be implemented to contribute to other program targets by:

(i) Internally

- administering the acquisition of any additional lands required by various ministry programs such as parks and fish and wildlife;
- administering the *Lakes and Rivers Improvement Act* in order to protect rivers and watercourses by regulating the construction of any dam or works on any river or watercourse through the review and approval of the location, plans and specifications;
- administering the *Beach Protection Act*, to protect the natural state or use of water and the adjoining shore property through the issuance of licences for the taking of sand from the bed, bank, beach, shore or waters of any lake, river or stream;
- under the *Public Lands Act*, administering all forms of disposition of public land, and public land under water by:
  - granting Crown leases, licences of occupation and land use permits; and
  - managing Crown water lots for purposes which are necessary to complement the use of the adjoining shoreland;
- preparing coastal zone management statements for all shorelands owned by the Ministry of Natural Resources; and
- reviewing proposals for the dredging of river mouths and harbours under the *Beach Protection Act;* and

(ii) Through co-operation with conservation authorities and municipalities

- prepare flood erosion management policies for streams and shorelines for inclusion in municipal planning documents.

APPENDIX

A: highlights of public consultation

Public consultation in preparation of the *Chatham District Land Use Guidelines* began in June 1982. Open houses to display background information and to provide the public with an overview of ministry programs and responsibilities were held in Chatham and Windsor, June 22 and 23, respectively. Approximately 140 took the opportunity to attend and express their concerns related to natural resource management and use.

In August 1982, the first draft of this report was released. Concurrent with the release, open houses were held in Chatham (August 17), Sarnia (August 18) and Windsor (August 19) to promote additional interest and to invite public comment. In all, approximately 180 people attended.

Additionally, presentations were made to individual groups upon request, during September 1982. Specifically, these included council members of Lambton County and Pelee Island.

Public comment on the draft was invited to the end of August. This deadline was established to provide staff adequate time to assess comments and to revise its contents accordingly before its submission to the Minister November 1, 1982. Although no formal extension was granted, comments continued to be accepted and were handled as best as possible prior to the November submission. By that time, well over eighty written and verbal comments on the draft had been received.

Tables 1 and 2 briefly summarize the contacts made and the responses received up until November 1, 1982.

The *Chatham District Land Use Guidelines* have been prepared based on an analysis and evaluation of the public input received. The Minister personally reviewed the *Summary of Public Responses*, and discussed the proposed guidelines with the District Manager.

The types of issues raised were also summarized in an unpublished report entitled *Summary of Public Responses*. This report, along with copies of comments received are available for view at the Chatham District office, the ministry's main office public reading room, and the legislative library at Queen's Park, Toronto.

TABLE 1 SUMMARY OF CONTACTS

TYPE OF CONTACT	NUMBER
1. Background Open Houses	
Background Open House Attendance	2
Telephone Comments	139
Conversational Comments at Open House	2
Written Comments	30
Radio Station Interviews	2
Television Interviews	2
Newspaper Interviews	1
	4
2. Draft Strategy Open Houses	
Draft Strategy Open House Attendance	3
Telephone Comments	179
Conversational Comments at Open House	3
Questionnaire forms filled out at Open House	36
Written Comments sent after Open House	9
	37

TABLE 2 SUMMARY OF RESPONSES

Response Documentation / Category of Respondent	Indiv.	C.A.	Government Agency	M.P.P.	Munic.	Interest Group[1]	Industry[1] (Co. or Assoc.)	Category Unknown (Anon.)	All Categories (Total)
Background Open House Comment Sheet	2					1			3
Background Open House Record of Conversation	17	1	1		2	5	3	media 1	30
Draft Strategy Open House Comment Sheet	6				1				7
Draft Strategy Open House Record of Conversation	31				4	4			39
Mailed Comment Sheet	9		1			2	3		15
Letter/Brief	4	3	2		6	2	6		23
Record of Conversation	3								3

(1) The responses included in the Interest Group and Industry columns are those which were received from official representatives.

Candidate Park
An area designated in Ministry of Natural Resources' *Land Use Guidelines* which may be given official status as a park at some time in the future.

Capability
The natural ability of an area to provide continuous opportunity for benefits under an assumed level of management.

Capacity
The upper limit to which an area of land, or water, may be used or developed without an undesirable change taking place in the environment. Also called carrying capacity.

Crown land
All land (including land under water) held by the province, both land which has never been sold and land which has been re-acquired.

Commercial Fishing
The taking for sale of fish other than game fish, by means of any hook-line, trolling line, spear, minnow-trap, dip-net, gill-net, hoop-net, pound-net, seine-net, trammel-net, trap-net, or trawl-net.

Deer Yard
An area having available shelter and food, in which deer are usually found during the winter.

Earth Science Feature
Public or private land where landforms of provincial interest have been identified.

Fish Community
An aggregation of different fish species living and interacting together.

Forestry Purposes
Includes the production of wood and wood products, provision of proper environmental conditions for wildlife, protection against floods and erosion, recreation, and protection and production of water supplies.

Furbearers
Animals having commercially valuable pelts including beaver, mink, marten, otter, muskrat, fisher, fox, raccoon, wolf and lynx.

Goal
A general purpose to which the ministry aspires.

Habitat
The place or type of site where an animal or plant naturally or normally lives.

Hazard Land
Land, which because of its physical characteristics in combination with its location present a risk for its occupants including loss of life, property damage and social disruption, for example, flooding.

Historical Theme Segment
A theme segment represents an important phase of a distinctive activity which took place in a specific time and place within Ontario.

Integrated Resource Management
The co-ordination of resource management programs to ensure that conflicts are minimized and that management which would benefit several programs is encouraged. Integrated management encourages multiple use, but recognizes that in some circumstances management of areas for a single purpose may be necessary.

Interim Use
Land and resource use and management practices which are permitted to occur over a period of time prior to the initiation of another identified use.

Land Use Guidelines
A document which displays direction concerning the use of land and water in a defined area. It identifies where and how the ministry intends to achieve its objectives in a specific district through the use of Crown land and through influencing the use of private land.

Land Use Planning
A process which culminates in a direction regarding the use of land.

Life Science Feature
Public or private land where a natural habitat of provincial interest has been identified.

Management
The judicious use of means to achieve ends. Management may have various levels of intensity.

Mining Rights
The right to work the ores, and minerals on or under any land. These may be granted separately from surface rights.

Multiple Use
A resource management or planning concept applied to very large areas to indicate that all basic uses are accommodated. Typically, two or more uses may occur on the same general area at the same time or in sequence.

Natural Environment Park
An area incorporating outstanding recreational landscapes with representative natural features and historical resources to provide high quality recreational and educational experiences.

Nature Reserve
An area designated as a provincial park and selected to represent the distinctive natural habitats and landforms of the province, and are protected for educational and research purposes to benefit present and future generations.

Objective
A quantifiable end result to be achieved.

Operational Plan
A part of a resource management plan stating the extent (includes human and financial resources) of all work of any nature to be carried out during one or more years of the management period.

Opportunity
A measure of recreation supply. It is used to describe the number of times a resource or facility can be used (occasion of use) in a given time period. An opportunity is considered not to be greater than one day.

Optimum Sustainable Yield
The concept refers to the maximum level of resource harvest which can be sustained on a long-term basis without causing detrimental effects on the resource base.

Policy
A decision concerning the objectives to be achieved and the means of achieving them.

Production Forest Land
An area dedicated to the growing of merchantable timber or the production of other forest products.

Productive Forest Land
Those lower capability agricultural lands, both forested and open and higher capability lands with existing forest cover, from which the ministry hopes to achieve their forestry targets.

Program
An activity undertaken by the ministry to provide a service or manage a particular resource.

Public Land
Any land owned or administered by a public body or agency. It includes federal, provincial and municipally-owned lands, and lands held by agencies such as parks commissions and conservation authorities.

Recreation Park
An area which supports a wide variety of outdoor recreation opportunities for large numbers of people in attractive surroundings.

Resource
Any commodity that meets a need.

Resource Management
The control and co-ordination of the use of resources to achieve specific ends. Commonly supplied in particular to natural resources.

Resource Management Plan
A plan by which the policies, objectives and targets usually of an individual program (except in the case of an integrated resource management plan) are implemented for a specific resource.

Sequential Use
Where one use is followed by another in planned sequence.

Strategy
Planned actions or measures to achieve a desired end.

CHATHAM DISTRICT

GENERAL RESOURCE AREAS

5 0 5 10 15 20 Kilometres

5 0 5 10 15 Miles

A: URBAN AND URBANIZING AREAS, INDIAN RESERVES AND FEDERAL LANDS

General Description
- areas where normally there will be little or no resource management activity by the Ministry unless specifically requested.

Resource Management Guidelines
- within urban areas, programs may be involved in the protection of life and property through the hazard land policies.
- technical assistance and services may be provided on Indian Reserve lands upon request.

B: GREAT LAKES SHORELINE

General Description
- includes the shoreline of Lakes Erie, St. Clair, and Huron.
- several major lakeshore marches and wetlands are located here, together with six of the district's eight provincial parks.
- provides the greatest access to fish resources and supports significant fish spawning and nursery areas.
- contains brine extraction and petroleum products storage caverns.
- eroding shorelines may be hazardous to existing and future developments.

Resource Management Guidelines
- camping and day-use opportunities will be provided.
- where the demand justifies, the provision of access to the Great Lakes waterway system will be supported.
- the private sector and local municipalities will be encouraged either directly or through appropriate authorities or commissions to develop required facilities to meet any additional needs for camping and day-use opportunities. Efforts to provide for general recreation activities will also be supported.
- protection of earth and life science features will be encouraged

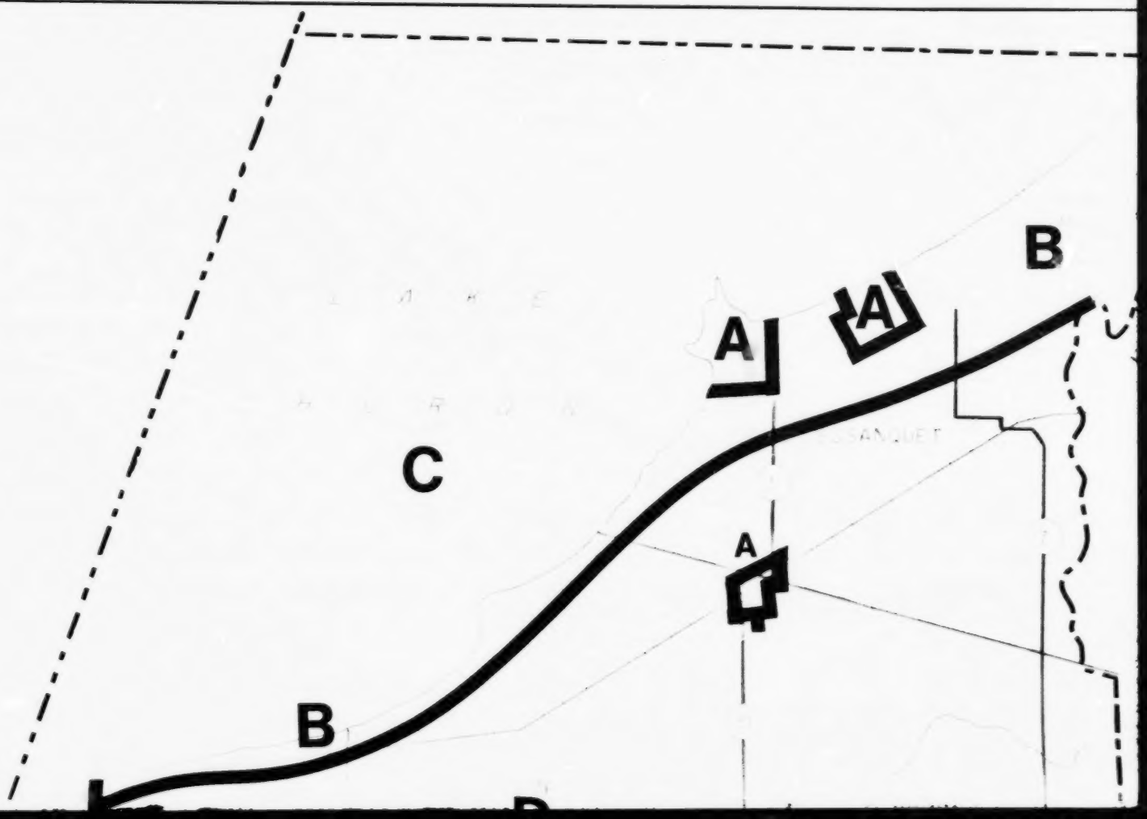
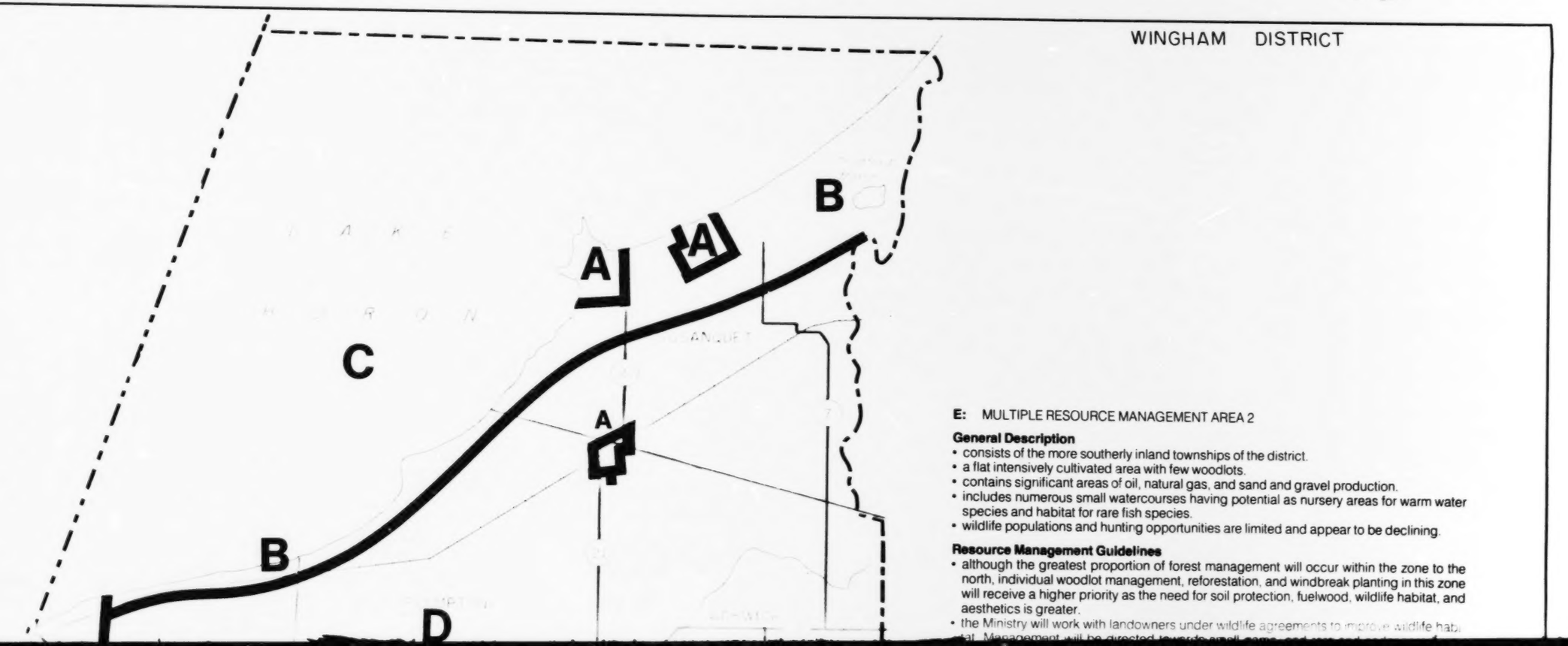


Figure 10

Provincial Highway

Municipal Boundary



WINGHAM DISTRICT

E: MULTIPLE RESOURCE MANAGEMENT AREA 2

General Description

- consists of the more southerly inland townships of the district.
- a flat intensively cultivated area with few woodlots.
- contains significant areas of oil, natural gas, and sand and gravel production.
- includes numerous small watercourses having potential as nursery areas for warm water species and habitat for rare fish species.
- wildlife populations and hunting opportunities are limited and appear to be declining.

Resource Management Guidelines

- although the greatest proportion of forest management will occur within the zone to the north, individual woodlot management, reforestation, and windbreak planting in this zone will receive a higher priority as the need for soil protection, fuelwood, wildlife habitat, and aesthetics is greater.
- the Ministry will work with landowners under wildlife agreements to improve wildlife hab

spawning and nursery areas will also be protected from adverse impacts of development.
- as trees are an important means of controlling erosion, maintaining water quality and providing aesthetics as well as wood products, forest management will be directed towards maintaining forest cover, the management of individual woodlots, and the planting of suitable windbreaks to help control soil erosion.
- non-renewable energy resources will be managed to minimize conflict and encourage orderly development.
- lands susceptible to flooding and erosion will be protected through the hazard land policies.

C: GREAT LAKES

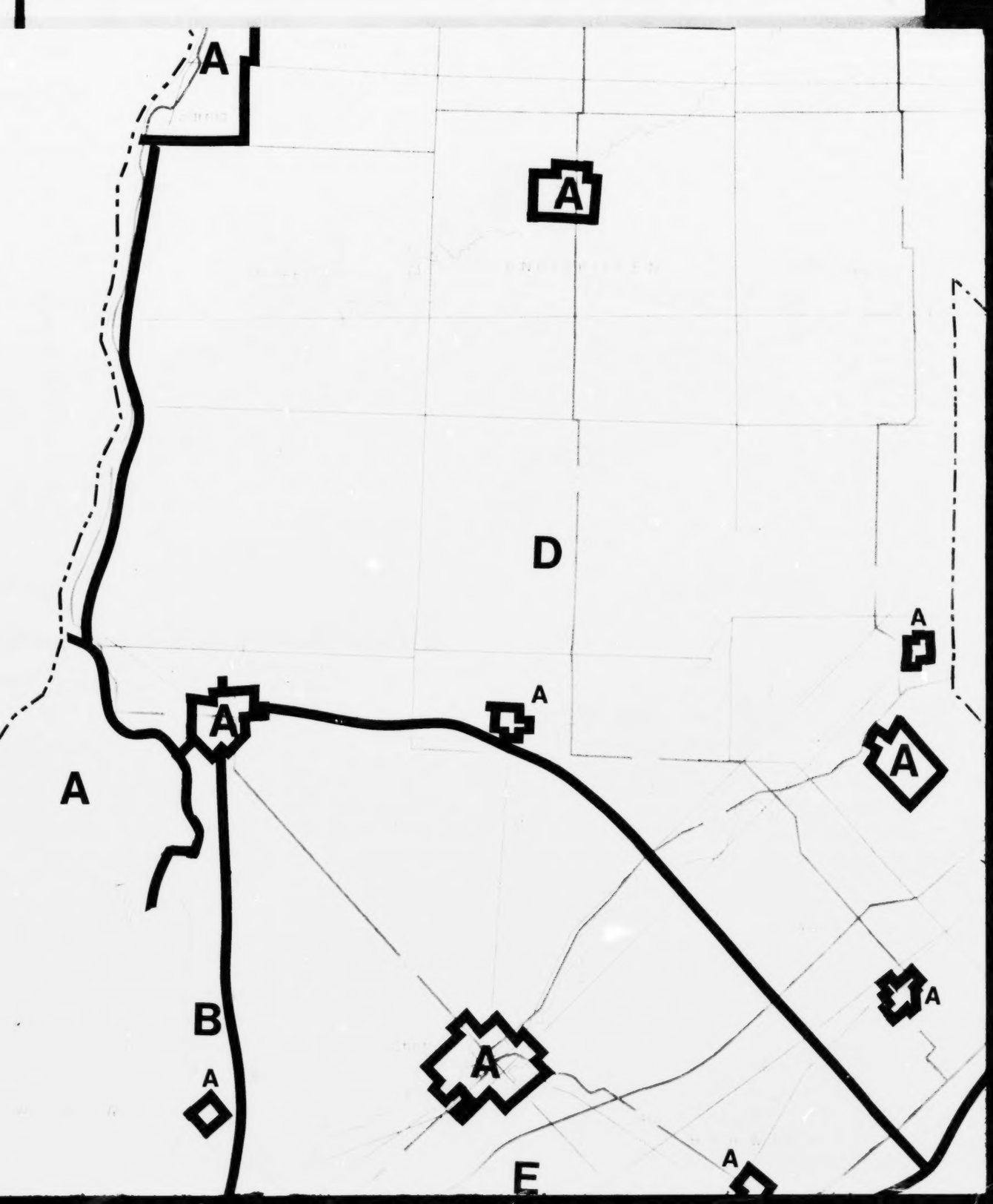
General Description
- location of extensive commercial fisheries for yellow pickerel, white bass, yellow perch, smelt, whitefish and coarse fish species, and important offshore sport fisheries especially for yellow pickerel.
- contains potential petroleum and sand and gravel resources. Exploratory drilling and production of gas occurs in Lake Erie east of Point Pelee.

Resource Management Guidelines
- fisheries management activities will be in co-operation with the Great Lakes Fisheries Assessment Units. The harvest of major commercial and some sport species will be regulated to prevent over exploitation.
- efforts will be made to minimize conflicts between petroleum operations and commercial trawlers and commercial and sport fishermen, where such uses co-exist.
- sandsucking operations will be managed to minimize adverse impacts.
- exploratory drilling for oil and gas will be in accordance with existing international agreements.

D: MULTIPLE RESOURCE MANAGEMENT AREA 1

General Description
- consists of the more northerly inland townships of the district.
- predominately a rural agricultural area distinguished by numerous small highly productive woodlots.
- contains much of the district's petroleum, sand and gravel, forestry, big game and small game resources.
- watersheds of the Thames and Sydenham Rivers support rare fish species and important pickerel spawning areas.

Resource Management Guidelines
- preservation and management of existing woodlots will be encouraged. As this area contains the greatest percentage of existing woodlots and lands suitable for reforestation, the greatest proportion of total forest resources management will take place within this area.
- uses such as agriculture and woodlot management which do not preclude future petroleum, mineral, and aggregate exploration and extraction will be encouraged. Management integration and sequential land use will be emphasized to minimize conflict and foster orderly development.
- wildlife management will be directed towards deer and raccoon species, while fisheries management will be towards yellow pickerel and rare and endangered fish species. Where possible, land use practices which minimize soil erosion and eutrophication of watercourses will be promoted.
- the private sector and local municipalities will be encouraged either directly or through appropriate authorities or commissions, to develop required facilities to meet any additional needs for camping and day-use opportunities. The Ministry will also support these and other groups in their efforts to provide for other general recreation opportunities.
- protection earth and life science features will be encouraged.



um, mineral, and aggregate exploration and extraction will be encouraged. Management integration and sequential land use will be emphasized to minimize conflict and foster orderly development.
- land use practices which minimize soil erosion and eutrophication of watercourses will be promoted.
- the private sector and local municipalities will be encouraged either directly or through appropriate authorities of commissions to develop required facilities to meet any additional needs for camping and day-use opportunities. Other efforts to provide for general recreation activities will also be supported.
- protection earth and life science features will be encouraged.

F: WESTERN LAKE ERIE ARCHIPELAGO

General Description
- consists of nine islands within the shallow western end of Lake Erie, of which Pelee Island is the longest and only permanently inhabited island.
- these waters include very productive shoal areas which support abundant fish populations, while the islands support unique and varied flora and fauna.
- Pelee Island also provides significant hunting opportunities through traditional pheasant hunts, and benefits from agriculture, tourism, and aggregate extraction.

Resource Management Guidelines
- the fisheries resources will be managed for both anglers and commercial fishermen.
- programs will accommodate the continuation of traditional pheasant hunts.
- protection earth and life science features will be encouraged.
- the private sector and local municipality will be encouraged either directly or through appropriate authorities or commissions to develop required facilities to meet any additional needs for camping and day-use opportunities. Other efforts to provide for general recreation activities will also be supported.
- uses such as agriculture and woodlot management which do not preclude future petroleum, mineral, and aggregate exploration and extraction will be encouraged. Management integration and sequential land use will be emphasized to minimize conflict and foster orderly development.
- maintenance of existing forest cover and the management of woodlots will be encouraged to provide for other uses of wood production such as wildlife habitat, aesthetics, erosion control, and to help meet local fuelwood needs.

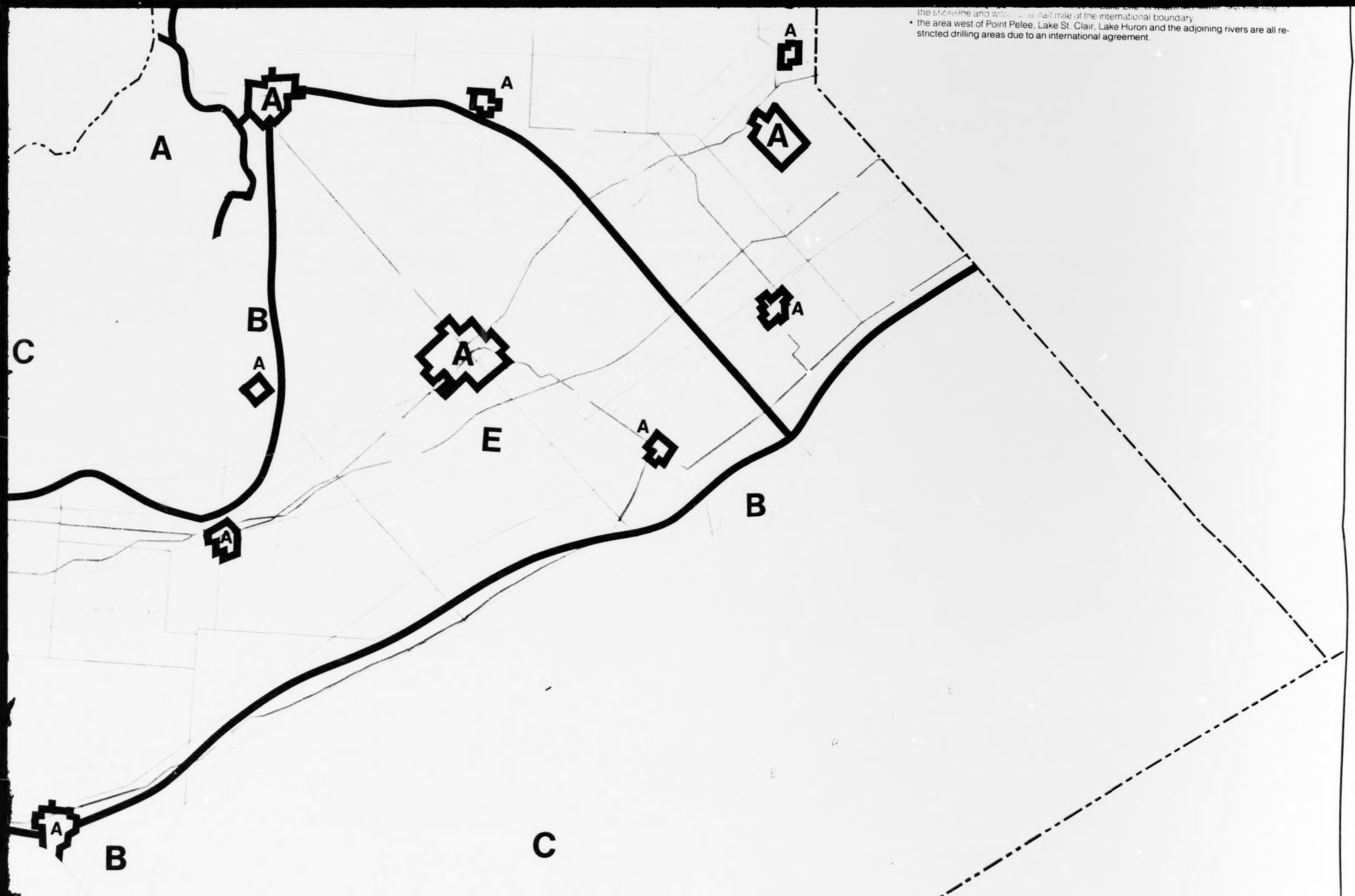
NOTE: **Restrictions on Petroleum Drilling**
- no drilling is permitted within 76 m (250 ft.) of any dwelling, within 107 m (3650 ft.) of a shoreline and within public properties (e.g. parks, conservation areas).
- offshore gas drilling, east of Point Pelee in Lake Erie, is restricted within one-half mile of the shoreline and within one-half mile of the international boundary.
- the area west of Point Pelee, Lake St. Clair, Lake Huron and the adjoining rivers are all restricted drilling areas due to an international agreement.

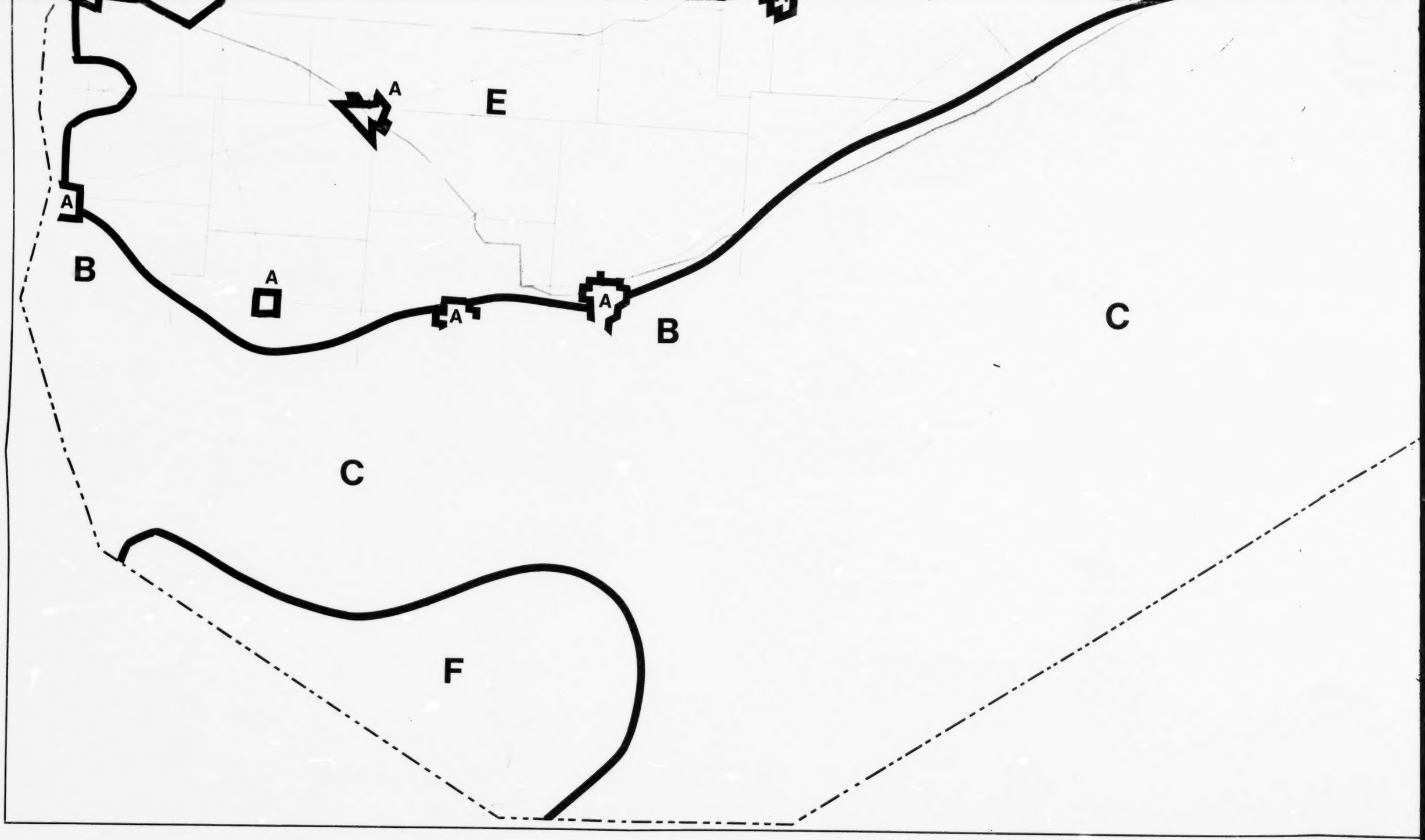
AYLMER DISTRICT

Resource Management Guidelines

- preservation and management of existing woodlots will be encouraged. As this area contains the greatest percentage of existing woodlots and lands suitable for reforestation, the greatest proportion of total forest resources management will take place within this area.
- uses such as agriculture and woodlot management which do not preclude future petroleum, mineral, and aggregate exploration and extraction will be encouraged. Management integration and sequential land use will be emphasized to minimize conflict and foster orderly development.
- wildlife management will be directed towards deer and raccoon species, while fisheries management will be towards yellow pickerel and rare and endangered fish species. Where possible, land use practices which minimize soil erosion and eutrophication of watercourses will be promoted.
- the private sector and local municipalities will be encouraged either directly or through appropriate authorities or commissions, to develop required facilities to meet any additional needs for camping and day-use opportunities. The Ministry will also support these and other groups in their efforts to provide for other general recreation opportunities.
- protection earth and life science features will be encouraged.

- the shoreline and within one half mile of the international boundary.
- the area west of Point Pelee, Lake St. Clair, Lake Huron and the adjoining rivers are all restricted drilling areas due to an international agreement.

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